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COUNTY OF HONOLULU and HONOLULU
BOARD OF WATER SUPPLY

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IN THE CIRCUIT COURT OF THE FIRST CIRCUIT
STATE OF HAWAII

CITY AND COUNTY OF HONOLULU and
HONOLULU BOARD OF WATER SUPPLY,

Plaintiffs,

vs.

SUNOCO LP; ALOHA PETROLEUM, LTD.;
ALOHA PETROLEUM LLC; EXXON
MOBIL CORP.; EXXONMOBIL OIL
CORPORATION; ROYAL DUTCH SHELL
PLC; SHELL OIL COMPANY; SHELL OIL
PRODUCTS COMPANY LLC; CHEVRON
CORP; CHEVRON USA INC.; BHP GROUP
LIMITED; BHP GROUP PLC; BHP HAWAII
INC.; BP PLC; BP AMERICA INC.;
MARATHON PETROLEUM CORP.;
CONOCOPHILLIPS; CONOCOPHILLIPS
COMPANY; PHILLIPS 66; PHILLIPS 66
COMPANY; AND DOES 1 through 100,
inclusive,

Defendants.

CIVIL NO. 1CCV-20-0000380 (LWC)

(Other Non-Vehicle Tort)

**PLAINTIFFS' MEMORANDUM OF LAW
IN OPPOSITION TO DEFENDANTS'
MOTION FOR SUMMARY JUDGMENT
BASED ON THE STATUTE OF
LIMITATIONS;**

**DECLARATIONS OF NAOMI ORESKES,
PH.D., RAYMOND STUART BRADLEY
PH.D., MELISSA ARONCZYK, PH.D.,
ANTHONY R. PRATKANIS, M.A., PH.D.,
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CALDWELL, STEPHANIE D. BIEHL and
WILLIAM LIANG**

EXHIBITS #1 - #263

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The Honorable Lisa W. Cataldo

Courtroom/Division: First Circuit 9th Division

Trial Date: None.

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**PLAINTIFFS' MEMORANDUM OF LAW IN OPPOSITION TO DEFENDANTS'
MOTION FOR SUMMARY JUDGMENT BASED ON THE STATUTE OF LIMITATIONS**

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INTRODUCTION

“The fossil fuel industry and its allies and surrogates created an organized campaign to foster and sustain doubt about anthropogenic global warming and prevent meaningful action. They did this by influencing consumers and the general public. It is my expert opinion that Defendants have participated in this campaign for more than the last half century, and that their behavior continues today.”

– Declaration of Dr. Naomi Oreskes (Oreskes Decl.) at 5.

Plaintiffs, the City & County of Honolulu (“City”) and the Honolulu Board of Water Supply (“BWS”), are suing Defendants to “challenge the promotion and sale of fossil-fuel products without warning and abetted by a sophisticated disinformation campaign.” *City & Cnty. of Honolulu v. Sunoco LP*, 153 Hawai‘i 326, 334 (2023). Defendants have never issued warnings commensurate with their products’ dangers to the City, BWS, and the planet, and their disinformation campaign unfolded over many decades and continues to this day, causing Plaintiffs’ injuries.

Defendants try to avoid discovery by asserting that Plaintiffs’ claims are time-barred. Not so. First, all of Plaintiffs’ claims are timely under the continuing tort doctrine. Defendants’ tortious misconduct continues today—as shown by experts Dr. Oreskes, Dr. Raymond Bradley, Dr. Anthony Pratkanis, and Dr. Melissa Aronczyk, as well as by dozens of examples of Defendants’ ongoing conduct. Second, HRS § 657-7, Defendants’ preferred statute of limitations, does not reach Plaintiffs’ claims for equitable relief or for damages relief that does not constitute compensation for physical injuries to property or persons. In fact, no statute of limitations applies to Plaintiffs’ claims because of the common-law doctrine of nullum tempus. Third, Defendants do not demonstrate that Plaintiffs’ claims accrued before March 2018. Finally, and alternatively, the Court should deny the Motion and allow further discovery under Hawai‘i Rule of Civil Procedure (“HRCP”) 56(f), as Defendants have thus far refused to produce *any* documents applicable to the disputed material facts at issue in this Opposition, and Plaintiffs identify numerous facts that discovery will unveil.

SUMMARY JUDGMENT STANDARD

Summary judgment should be denied “unless the entire record shows a right to judgment with such clarity as to leave no room for controversy and establishes affirmatively that the adverse party cannot prevail under any circumstances.” *State v. Zimring*, 52 Haw. 472, 475 (1970). Summary judgment is especially disfavored in circumstances like these. A movant’s burden is greater where, as here, they “seek[] summary judgment before discovery has concluded.” *Field, Tr. of Est. of Aloha Sports Inc. v. NCAA*, 143 Hawai‘i 362, 372 n.22 (2018); see *Ralston v. Yim*, 129 Hawai‘i 46, 61 (2013) (reversing grant of summary judgment where “there was still over a year left” before close of discovery). The Supreme

Court also has made clear that summary judgment is disfavored for the statute of limitations, *Ass'n of Apartment Owners of Newtown Meadows v. Venture 15, Inc.*, 115 Hawai'i 232, 277 (2007), and in cases of "public importance," *Molokai Homesteaders Co-op. Ass'n v. Cobb*, 63 Haw. 453, 458 (1981).

ARGUMENT

I. All of Plaintiffs' Claims Are Timely Under the Continuing Tort Doctrine.

"Hawai'i has long recognized" that "tortious conduct that is ongoing" tolls a statute of limitations regardless of when a plaintiff's claims accrued. *Garner v. State*, 122 Hawai'i 150, 168 (App. 2009). Although Defendants have produced almost no discovery to date, Plaintiffs' evidence from other sources shows that Defendants' failures to warn and disinformation are ongoing. Even if Defendants dispute that on reply, only a jury can resolve the parties' factual disputes.

"[G]enerally, a continuing tort is a tortious act that occurs so repeatedly that it can be termed 'continuous,' such that one may say that the tortious conduct has not yet ceased." *Anderson v. State*, 88 Hawai'i 241, 248 (App. 1998). A plaintiff may treat "the entire sequence of events" as the wrong, such that the statute of limitations is tolled until the tortious conduct ends. *Id.* at 248 (cleaned up). The doctrine is especially fitting when "no single incident in a continuous chain of tortious activity can fairly or realistically be identified as the cause of significant harm," because it then "seems proper to regard the cumulative effect of the conduct as actionable." *Id.* (cleaned up). Summary judgment must be denied where a defendant "fail[s] to show that there were no material questions of fact regarding whether the alleged violation was . . . continuing." *Id.* at 250.

Here, Defendants have continuously engaged in an ongoing campaign of deceptive conduct since the mid-1960s, both individually and collectively as members of the American Petroleum Institute ("API") and other third-party organizations.¹ *See* Oreskes Decl. at 5–34. Despite their early knowledge of the "catastrophic" climate consequences of continued use of their products, *see id.* at 7–8, Defendants have never issued warnings commensurate with this danger. Defendants instead have deployed a multifaceted, layered campaign of climate deception that continues to this day. *See id.* 5–34; Exs. 13–239, 244–63 (showing ongoing misleading statements). And Plaintiffs' injuries were not merely caused by Defendants' failure to warn a single consumer or their dissemination of one misleading statement, but by the "cumulative effect," *Anderson*, 88 Hawai'i at 248, of Defendants' decades-long deception efforts.

¹ *See* Ex. 240 (listing members of various API committees and their fossil fuel company affiliations in 1972, including Shell, BP, Chevron, ExxonMobil, ConocoPhillips, Sunoco, and their predecessors).

Summary judgment is thus inappropriate, especially as Plaintiffs do not need to prove the merits of their claims for the continuing tort doctrine to apply. *See Anderson*, 88 Hawai‘i at 250 (merits dispute regarding a trespass claim “[was] premature” for continuing tort analysis, where summary judgment motion addressed only the statute of limitations).² Plaintiffs need only establish that a continuing duty exists, and that the complained-of conduct “has not yet ceased.” *Id.* at 247–49; *see Kam ex rel. K.K. v. State of Haw. Bd. of Educ.*, 2021 WL 3669303, at *5 (D. Haw. Aug. 18, 2021) (“[W]hether Defendants’ [conduct] is actionable under tort law is distinct from the [statute of limitations] question addressed in the Motion.”). Plaintiffs easily do so, providing examples of Defendants’ misconduct before, during, and after the purported limitations period that breached their continuing duties to warn and not to cause a nuisance or trespass. Exs. 13–239, 244–63³; *see Oreskes Decl.* at 10–34 (describing examples of deceptive conduct over 60 years); *see also Declaration of Dr. Melissa Aronczyk (Aronczyk Decl.)* at 7–31 (describing statements in the 2010s and 2020s); *see also Declaration of Dr. Raymond Bradley (Bradley Decl.)* ¶¶ 36–47 (describing examples of misleading statements from 2021–2025); *see also Declaration of Dr. Anthony Pratkanis (Pratkanis Decl.)* at 5–12 (describing statements in 1990s and 2010s). If Defendants dispute whether such a continuing pattern exists, that dispute cannot be resolved at summary judgment.

A. Defendants Have a Continuing Duty to Warn of Their Products’ Harms and Not to Cause a Nuisance or Trespass with Deceptive Conduct.

“[T]his is a traditional tort case alleging Defendants misled consumers and should have warned them about the dangers of using their products.” *Honolulu*, 153 Hawai‘i at 340. Manufacturers that know or should know of dangers foreseeably posed by their products must provide warnings commensurate with those dangers. *Ontai v. Straub Clinic & Hosp. Inc.*, 66 Haw. 237, 248 (1983). And manufacturers that cause a nuisance or trespass by affirmatively and wrongfully promoting their products are liable for the resulting harms. *See, e.g., Delaware ex rel. Jennings v. Monsanto Co.*, 299 A.3d 372, 381–89 (Del. 2023); *California v. ConAgra Grocery Prods. Co.*, 227 Cal. Rptr. 3d 499, 528–29, 534–36 (Cal. Ct. App. 2017) (addressing only nuisance); *In re MTBE Prods. Liab. Litig.*, 725 F.3d 65, 79 (2d

² What’s more, merits adjudication is premature because, for example, “[t]he adequacy of a warning is generally a question for the trier of fact.” *Est. of Klink v. State*, 113 Hawai‘i 332, 360 (2007).

³ If these or other exhibits are deemed inadmissible, Plaintiffs request judicial notice under HRE 201 of the fact that Defendants (or their third-party collaborators) made the statements in these exhibits, on or around the dates Plaintiffs have provided for those exhibits. Plaintiffs do not seek judicial notice of the truth of any matters stated therein.

Cir. 2013). Because Defendants have known since the 1960s that continued use of their products posed catastrophic risks to the planet and places like O‘ahu, Oreskes Decl. at 6–9, they had a duty to warn and not to deceive about their products’ harms, a duty not to cause or contribute to a public nuisance by deceptively promoting their products, and a duty to avoid interfering with or trespassing upon Plaintiffs’ real property through their conduct. First Amended Complaint (“FAC”) ¶¶ 155–206.

Each of these duties has a continuing character. *See Anderson*, 88 Hawai‘i at 247–250 (continuing trespass); *Aana v. Pioneer Hi-Bred Int’l, Inc.*, 965 F. Supp. 2d 1157, 1182 (D. Haw. 2013) (continuing failure to warn, nuisance, and trespass). Nor is Hawai‘i law unusual in this respect.⁴ Indeed, courts have found that a continuing duty is breached where there is a “decades-long marketing and distribution scheme that continues unabated.” *In re Nat’l Prescription Opiate Litig.*, 2019 WL 4194296, at *13 (N.D. Ohio Sept. 4, 2019) (denying summary judgment on statute of limitations motion because, in part, of a “decades-long” misleading opioids marketing campaign). Here, too, Defendants have a continuing duty to warn of their products’ harms and refrain from wrongfully promoting their fossil fuel products.

B. Defendants’ Tortious Conduct Is Continuous and Ongoing.

Plaintiffs’ evidence raises numerous disputes of material fact as to whether Defendants’ “promotion and sale of fossil-fuel products without warning and abetted by a sophisticated disinformation campaign,” *Honolulu*, 153 Hawai‘i at 334, constitutes “a continuing pattern and course of conduct,” *Chavez v. Deutsche Bank Nat’l Tr. Co.*, 2020 WL 7038589, at *15 (D. Haw. Nov. 30, 2020), that continues to this day.

Dr. Oreskes, a Harvard scientist and historian who has studied the use of deception and doubt by fossil fuel companies (as well as others, like the tobacco industry) to further their business interests, explains how Defendants’ actions to deny and downplay the link between their fossil fuel products and climate change amount to “an organized campaign to foster and sustain doubt about anthropogenic global warming.” Oreskes Decl. at 3. This campaign has occurred in layers, where Defendants sometimes have made “express, public-facing denials of climate change” and at other

⁴ *See, e.g., Gros Ventre Tribe v. United States*, 344 F. Supp. 2d 1221, 1229 n.3 (D. Mont. 2004) (the continuing tort doctrine, also called the continuing violation doctrine, “evolved in the context of tort and nuisance law”); *Illinois v. Monsanto Co.*, 2023 WL 3292591, at *5 (N.D. Ill. May 5, 2023) (applying continuing tort doctrine where the state alleged manufacturer “knew of the obvious dangers the [products] posed . . . without issuing any warnings”); *Everhart v. Rich’s, Inc.*, 194 S.E.2d 425, 428 (Ga. 1972) (failure-to-warn claims do not accrue until “the continued tortious act producing injury is eliminated, e.g., by an appropriate warning in respect to the hazard”).

times have refused to explicitly acknowledge that “climate change is caused from the burning of fossil fuels,” but misleadingly “frame[d] themselves as acting responsibly in response to climate risks.” *Id.* at 5. Across these layers, Dr. Oreskes identifies at least six persistent features showing that Defendants’ behavior was all part of the same “sophisticated disinformation campaign.” *Honolulu*, 153 Hawai‘i at 340.

- First, a constant attribute of Defendants’ conduct has been the vast discrepancies between Defendants’ internal knowledge and external communications on climate change. Oreskes Decl. at 9–15. Internally, Defendants have acknowledged the severity of climate change and accurately predicted rising greenhouse gas emissions, increases in temperature, and resulting impacts like rising seas and economic consequences. *Id.* at 6–9. All the while, Defendants have misleadingly pushed the opposite message through newspaper advertorials (advertisements that look like editorials), reports, website statements, and television ads, either directly or through funding and directing others. *Id.* at 10–12. These discrepancies exist today, as Defendants publicly promote purported emissions reductions targets—while acknowledging internally and to industry audiences that those targets cannot be achieved based on their existing business practices, failing to disclose that their targets do not include emissions associated with the use of their products, and acting in ways that contradict such targets. *Id.* at 12–15.
- Second, Defendants have consistently made use of a complicated web of allied groups, trade associations, and other third parties to promote Defendants’ deceptive narratives from multiple fronts, including exaggerating greenhouse gas emissions from renewable energy sources and questioning whether climate change even exists. *See id.* at 15–19; *id.* at 28 (discussing how ExxonMobil admitted that it “join[ed] some of these shadow groups” to “aggressively fight against some of the science”); *id.* at 19 (discussing how a 2024 congressional investigation revealed that API’s executive committee—including ExxonMobil, Shell, BP, Chevron, Marathon, Phillips66, and ConocoPhillips—directed API’s advocacy priorities in 2018); *see also* Ex. 245 at 37. According to Dr. Oreskes, Defendants have worked with some of the same organizations, including API and the George C. Marshall Institute (now the CO₂ Coalition), for decades. Oreskes Decl. at 7, 15, 18–19.
- Third, Defendants have continually downplayed the risks of climate change, repeatedly asserting for three decades that there is “time to implement effective mitigation measures,” *id.* at 20, that “the potential extent of change in the climate itself could . . . be limited,” Ex. 248, and that “[w]e’ve already made progress” on reducing emissions, Oreskes Decl. at 22—all while knowing that these statements are misleading, *id.* at 6–9, 12, 2. The deceptive rhetorical framing of many of Defendants’ statements thus has remained nearly identical over time, as Defendants first minimized the risks of climate change, and now assert that the problem is being solved through their own (disingenuous) efforts to address it. *Id.* 20–22.
- Fourth, Defendants challenge science by publicly promoting doubt about climate change and its causes, and by questioning the validity of scientific models. Long ago, Defendants stated that “victory will be achieved when . . . average citizens ‘understand’ (recognize) uncertainties in climate science” and “recognition of uncertainties becomes part of the ‘conventional wisdom.’” Ex. 246 (API’s strategic communications plan). Even then they knew that the basic

science of climate change—and how to limit its impacts by switching to non-fossil fuel energy systems—was settled. Ex. 247. The practice continues today, as Defendants now challenge science about the need to reduce emissions and implement new climate solutions. *See* Oreskes Decl. at 26 (describing that ExxonMobil stated in 2018 that “current scientific understanding provides limited guidance on the likelihood, magnitude, or time frame of [climate change] events”).

- Fifth, Defendants fail to appropriately acknowledge to the public the grave climate dangers of their products, *id.* at 26–27, despite having known since the 1960s that use of their products would lead to “serious consequences for man’s comfort *and survival*,” *id.* at 7 (emphasis added). For example, out of twenty years’ worth of advertisements in *The New York Times*, ExxonMobil only ever created *two* that “expressed *any* form of explicit acknowledgement that climate change is real and human-caused.” *Id.* (emphasis added).
- Sixth, the unremitting goal of Defendants’ deception has been to further their business interests—that is, to continue producing, developing, and selling their fossil fuel products. *Id.* at 27–28; *see also id.* at 10 (describing Exxon documents concerned about the “noneconomic development of non-fossil fuel resources”); *id.* at 28 (describing a Shell memo stating that climate change “could have major business implications for the fossil fuel industry”); *id.* at 28 (describing BP memo stating that “promoting and protecting the role of gas as an increasing part of our energy mix is a paramount priority”).

As those six persistent features show, Defendants’ actions have constituted a systematic and continuous campaign of deception through today. *See, e.g., Aryeh v. Canon Bus. Sols., Inc.*, 292 P.3d 871, 879 (Cal. 2013) (“Allegations of a pattern of reasonably frequent and similar acts may . . . justify treating the acts as an indivisible course of conduct actionable in its entirety[.]”). The repetition of these features establish that Defendants’ actions are “a continuing pattern and course of conduct,” which has taken place over several decades. *Cf. Chavez*, 2020 WL 7038589, at *15 (“[T]he key [to the continuing tort doctrine] is whether the conduct complain[ed] of constitutes a continuing pattern and course of conduct as opposed to unrelated discrete acts.” (quotation omitted)). For example, as Dr. Oreskes describes, ExxonMobil took out an advertorial in *The New York Times* every Thursday between 1972 and 2001 and has published numerous advertorials in the newspaper in the subsequent two decades. Oreskes Decl. at 26. Among ExxonMobil’s advertorials in the newspaper between 1979 and 2015, 81% expressed doubt that climate change was real, human-caused, or serious—even though ExxonMobil has known otherwise since the 1960s. *Id.* at 26–27. ExxonMobil’s misleading advertisements in *The New York Times* continue today. *See* Ex. 48 (making claims about ExxonMobil’s purportedly significant efforts to build a “sustainable energy future”).⁵

⁵ As discussed below, Defendants engage in “misleading or deceptive communications” when they make “‘green’ claims while also continuing to invest in fossil fuel production[.]” Aronczyk Decl. at 5, 10; *see* Bradley Decl. at 15 (ExxonMobil planned to increase fossil fuel production between 2024 to

Defendants’ conduct has been misleading for this entire period. Defendants’ various efforts to muddy the connection between their fossil fuel products and climate change, directly and indirectly, were misleading because they had known about this link since the 1960s. Oreskes Decl. at 6–9. And then, without appropriately acknowledging that their own products are the leading cause of climate change, *id.* at 11, 26–27, Defendants layered on greenwashing—deceptively portraying themselves as leaders in the fight against climate change and creating the misleading impression that they are working hard to that end. Aronczyk Decl. at 7–17; 22–24. For example,

- They misleadingly claim to support the 2015 Paris Agreement—an international treaty with the goal of limiting global warming to 1.5 or 2.0 degrees Celsius—while simultaneously increasing their production and sale of fossil fuel products, which Dr. Bradley explains is so “incompatible with the Paris Agreement’s goals” that claims of support are “misleading at best, and untrue at worst.” Bradley Decl. ¶¶ 35, 38.
- They misleadingly claim to be moving toward “net zero,” even as they ignore emissions from the use of their products. *Id.* ¶¶ 40, 42–47; *see* Oreskes Decl. at 13–14, 29–31.
- They misleadingly assert that technological solutions like Carbon Capture and Storage (“CCS”) will meaningfully reduce emissions from fossil fuels, when no current technology can accomplish that end. Bradley Decl. ¶¶ 32–34; *see* Oreskes Decl. at 32.

As Dr. Pratkanis explains, Defendants engage in this misleading conduct—denial, doubt, and greenwashing—because it sells their products. Pratkanis Decl. at 7–9. It “can lead consumers to believe that there are no adverse consequences to the use of fossil fuels, and if there is, those problems will soon be solved, and thus, it is reasonable for a consumer to continue to use and purchase fossil fuels.” *Id.* at 2, 7–8; *see id.* at 6 (“While both doubt and green messaging campaigns can be effective independently, they gain additional effectiveness when used in combination.”).

Plaintiffs’ expert testimony robustly shows that Defendants and their allies made misleading statements and wrongfully promoted their products without adequate warnings during and after the limitations period. Oreskes Decl. at 5–33; Bradley Decl. ¶¶ 36–47; Aronczyk Decl. at 7–17; Pratkanis Decl. at 12–17. And Plaintiffs provide numerous illustrative instances of Defendants’ misleading statements that continue to this day, *see* Declaration of William Liang (Liang Decl.); *see also* Exs. 13–243, 248, as shown by the compiled statements in Plaintiffs’ demonstrative, *see* Ex. 1. This evidence easily raises a triable issue that Defendants’ conduct is tortious and ongoing. *Cf. Brome v. Cal. Highway Patrol*, 258 Cal. Rptr. 3d 83, 94 (Cal. App. 1st Dist. 2020) (the court “cannot say that, as a matter of law, the record precludes the jury from finding that [the Plaintiff] continued to experience” tortious

conduct).⁶ And while the merits are not at issue, Plaintiffs’ expert declarations and exhibits, as underscored by the demonstrative, raise a triable question of fact as to whether Defendants’ statements lacked adequate warnings and were misleading.

C. No Single Incident Caused Localized Climate Harm.

Finally, “no single incident in [Defendants’] continuous chain of tortious activity can fairly or realistically be identified as the cause of significant harm.” *Anderson*, 88 Hawai‘i at 248 (quotations omitted). Obviously, Plaintiffs’ climate injuries were not caused by Defendants’ failure to warn one consumer or dissemination of one misleading statement. Instead, the “cumulative effect” of Defendants’ decades-long deception campaigns inflated fossil-fuel consumption, accelerated global warming, and exacerbated climate-related hazards. *See id.* (quotations omitted); *see also Braun v. Ontrak, Inc.*, 2022 WL 5265052, at *14 (Cal. Super. Oct. 4, 2022) (“The lack of disclosure . . . is not a single discrete invasion of a primary right of Plaintiff by Defendants but is rather part of an interrelated series of acts and omissions.”). Indeed, as Dr. Aronczyk and Dr. Pratkanis help show, marketing campaigns function as ensembles rather than as individual messages. Aronczyk Decl. at 5, 29–30; Pratkanis Decl. 13–17. And it is the accumulation of deceptive statements that has led to Plaintiffs’ failure to warn, nuisance, and trespass tort claims.

D. Defendants’ Attempts to Evade the Continuing Tort Doctrine Are Unavailing.

Defendants assert that Plaintiffs’ Complaint does not allege violations of duty within the limitations period. Mot. at 19. But the Complaint on its face belies this assertion. FAC ¶ 139 (“Defendants’ advertising and promotional materials fail to disclose the extreme safety risk [of their products] They continue to omit that important information *to this day*.” (emphasis added)); *see id.* ¶¶ 137, 140–47. Moreover, Plaintiffs here provide additional *evidence* of dozens of acts during the limitations period. *See* Oreskes Decl. at 9–33; Bradley Decl. ¶¶ 36, 46; Pratkanis Decl. at 8–12; Aronczyk Decl. at 9–17; Ex. 13–239, 244–63. At the very least, there are clearly disputed material facts about Defendants’ actions within the limitations period.

⁶ The similarity in Defendants’ conduct, coupled with the overwhelming evidence of coordinated misconduct that Dr. Oreskes describes, also raises a genuine issue of material fact for the factfinder as to whether Defendants conspired with each other and third parties like API to unlawfully deceive, making their concerted conduct attributable to each other. *See Robert’s Haw. Sch. Bus., Inc. v. Laupahoehoe Transp. Co.*, 91 Hawai‘i 224, 252 n.28 (1999) (definition of conspiracy); *see also State v. Yoshino*, 45 Haw. 206, 214–15 (1961) (direct evidence of conspiracy unnecessary); *Mendocino Env’t Ctr. v. Mendocino Cnty.*, 192 F.3d 1283, 1301 (9th Cir. 1999) (existence of conspiracy is typically a jury issue).

Moreover, Defendants’ argument that the continuing tort doctrine does not apply to Plaintiffs’ claims, Mot. at 17–18, is wrong. The continuing tort doctrine applies to nuisance, failure to warn, and trespass claims where, like here, the misconduct is continuous and ongoing through the limitations period. *See, e.g., Anderson*, 88 Hawai‘i at 248–50 (trespass); *Aana*, 965 F. Supp. 2d at 1182 (applying doctrine to nuisance, failure-to-warn, trespass, and other claims). Indeed, at least two other courts have denied motions to dismiss analogous climate deception cases by finding that the continuing tort doctrine applies to ongoing misrepresentations. *See* (applying doctrine to deception-based nuisance, trespass, and failure-to-warn claims); *Minnesota v. Am. Petroleum Inst.*, 2025 WL 562630, at *19 (Minn. Dist. Ct. Feb. 14, 2025) (applying doctrine where the complaint alleged that defendants “continue[] to participate and/or direct misleading campaigns about the dangers of fossil fuels intended to reach consumers”).

The Hawai‘i cases cited by Defendants do not limit the continuing tort doctrine’s application here.⁷ Indeed, in both *Garner v. State* and *Molokai Services Inc. v. Hodgins*, the ICA *expanded* the doctrine to cover additional types of claims. *Garner*, 122 Hawai‘i at 169 (applying the doctrine even though “Hawai‘i case law ha[d] not previously articulated” its applicability to breach of contract); *Molokai Servs. Inc.*, 2018 WL 1083050 at *7–9 (Haw. App. 2018) (same, for breach of fiduciary duty). The key question is not whether Plaintiffs assert particular causes of action, but whether Plaintiffs have “presented *some* evidence” that violations are continuing. *Anderson*, 88 Hawai‘i at 250. That, Plaintiffs have done.⁸ *See supra* at I.B; *see* Ex. 13–239, 244–63.

⁷ Defendants’ other cited cases are clearly distinguishable. In *Ledbetter v. Goodyear Tire & Rubber Co.*, 550 U.S. 618 (2007), unlike here, the plaintiff expressly conceded that no relevant conduct had occurred within the limitations period. *See id.* at 623 (describing intentionally discriminatory acts that “occurred outside the statute of limitations period”). As for *City of New York v. ExxonMobil Corp.*, 226 N.Y.S.3d 863 (N.Y. Sup. Ct. 2025), a case which did not involve tort claims at all but only enforcement of that city’s consumer protection law, the court construed New York law in a manner that directly contradicts Hawai‘i law. In *New York*, the court held that the doctrine applies only if “each statement constitutes an independent, deceptive act” violating the relevant statute. *Id.* at 884. But Hawai‘i courts apply the doctrine when a defendant’s behavior “constitutes a continuing pattern and course of conduct as opposed to unrelated discrete acts.” *Chavez*, 2020 WL 7038589, at *15 (quotation omitted).

⁸ Defendants also argue, Mot. at 20 n.60, that the continuing tort doctrine limits recovery for damages to “damages accruing within the statutory period,” *Anderson*, 88 Hawai‘i at 250. But Defendants may be held liable for their continuing misconduct before, during, and after the limitations period because the Court “may treat *the entire sequence of events* as the occurrence from which the claim arose and compute the time for claims presentation *from the last event in the series*.” *See id.* at 248 (emphasis added) (quoting A. Van Alstyne, *California Government Tort Liability Practice* § 6.43 (Laurence M. Freiser, et. al., 3d ed.1992)); *see also Molokai Servs. Inc.*, 2018 WL 1083050, at *8 (defendants were not “forever

Defendants also err in inventing a “direct control” requirement for the continuing tort doctrine. Mot. at 19. Defendants’ invention relies on *Anderson*’s passing description of the plaintiff’s trespass claims and the facts of that case, but “direct control” was not a factor in the court’s analysis of the continuing tort doctrine.⁹ No other Hawai‘i case discussing the continuing tort doctrine has referenced a “direct control” requirement. *See, e.g., Garner*, 122 Hawai‘i at 169; *Molokai Servs., Inc.*, 2018 WL 1083050 at *7–9; *Island Helicopters-Kauai, Inc. v. Tesoro Hawai‘i Corp.*, 130 Hawai‘i 347 (App. 2012); *Boyd v. Univ. of Haw.*, 130 Hawai‘i 347 (App. 2012). And even if there were a direct control requirement, Defendants always *have* had direct control over their continuing deception and failure to warn.

For all these reasons, Plaintiffs’ claims are timely under the continuing tort doctrine.

II. Defendants’ Preferred Statute of Limitations Is Inapplicable.

Setting aside the continuing tort doctrine, Defendants’ proposed statute of limitations, HRS § 657-7, is inapplicable. First, Plaintiffs’ claim for equitable public nuisance abatement cannot be time-barred. Second, § 657-7 is inapplicable to Plaintiffs’ claims for equitable relief and for damages that compensate for non-physical injuries. Third, Plaintiffs’ claims are not subject to *any* statute of limitations under common-law nullum tempus because Plaintiffs seek relief for harms to public rights.

A. Plaintiffs’ Public Nuisance Abatement Claim Cannot Be Time-Barred.

Because Defendants are causing ever-worsening public nuisance conditions on O‘ahu, Plaintiffs seek the equitable remedy of nuisance abatement. *Cf. Territory v. Kerr*, 16 Haw. 363, 376 (1905) (courts may “arrest or abate [nuisances] in progress . . . [to] protect the public against them”). No statute of limitations applies to Plaintiffs’ public nuisance abatement claim because “[t]here is no such thing as a prescriptive right or any other right to maintain a public nuisance” that a wrongdoer may obtain through the passage of time. *See Cabral v. City & Cnty. of Honolulu*, 32 Haw. 872, 880–82 (1933) (quoting *Cluny v. Lee Wai*, 10 Haw. 319, 321–22 (1896)).

permitted” to engage in ongoing tortious conduct without being held liable); *Hamer v. City of Trinidad*, 924 F.3d 1093, 1098–99 (10th Cir. 2019) (“The utility of the continuing violation doctrine lies in the fact that as long as one of the separate wrongful acts contributing to the collective conduct occurs within the filing period, a court may consider the *entire* time period—including those separate acts falling outside the filing period—for the purposes of determining liability.” (quotations omitted)).

⁹ Further, as the ICA recently recognized in *Spittler v. Charbonneau*, 145 Hawai‘i 204, 210 (App. 2019), Hawai‘i courts “refer[] to the Restatement (Second) of Torts” to identify “the elements of trespass.” The Second Restatement does not contain a direct control requirement for trespass. *See id.*; *see* Restatement (Second) of Torts § 158.

This common-law principle is widely accepted for good reason. *Cf.* HRS § 1-1 (adopting common law). As the California Supreme Court has long emphasized, “[n]o length of time will legalize a public nuisance” because “[p]ublic rights are not destroyed by long-continued encroachments.” *See Hoadley v. City & Cnty. of San Francisco*, 50 Cal. 265, 270 (1875). Treatises agree. Hawai‘i courts often rely on the *Restatement (Second) of Torts*, including § 821C for nuisance. *See Castro v. Melchor*, 142 Hawai‘i 1, 34 (2018) (“[T]his court has many times relied on the Restatement”); *Haynes v. Haas*, 146 Hawai‘i 452, 460–61 (2020) (relying on § 821C for nuisance). Comment (e) to § 821C declares for public nuisance that “prescriptive rights, the statute of limitations and laches do not run against the public right.” Leading torts authority William L. Prosser similarly explained that “it is well settled that prescriptive rights, laches and the statute of limitations do not apply against [public nuisances].” William L. Prosser, *Law of Torts* § 88, p. 589 (4th ed. 1971) (Ex. 8). This principle endures because Hawai‘i courts “refuse[] to reject common law rules absent a finding of express legislative intent,” *Gold Coast Neighborhood Ass’n v. State*, 140 Hawai‘i 437, 452 (2017) (quotations omitted), and the Legislature has never abrogated this common law.

B. HRS § 657-7 Is Inapplicable to Plaintiffs’ Claims for Equitable Relief or Compensation for Non-Physical Injuries.

Additionally, HRS § 657-7—the only statute of limitations Defendants invoke—applies only to “[a]ctions for the recovery of compensation for damage or injury to persons or property.” This language “has been interpreted to apply to claims for damages resulting from physical injury to persons or physical injury to tangible interests in property.” *Au v. Au*, 63 Haw. 210, 216 (1981) (quotations omitted). Here, Plaintiffs also seek non-compensatory, equitable relief to *abate* presently existing nuisances and trespasses. *See* FAC at 115 (prayer for “[e]quitable relief, including abatement of the nuisances”); *id.* ¶ 203 (under trespass, alleging a “continu[ing]” harm to City property).¹⁰ It is well-established that “[a]batement of a present harm . . . [does] not have the same effect of compensating a harmed person for their past injuries,” *Haynes*, 146 Hawai‘i at 461. And “[t]here are numerous differences between an action for tort damages and an action for an injunction or abatement.” *Id.* (quotations omitted) (emphasis removed). Plaintiffs seek damages that would compensate for non-physical injuries, such as compensation for the costs of climate resiliency planning. *See* Declaration of Barry Usagawa ¶¶ 4–10; Declaration of Benjamin Sullivan ¶¶ 4–11.

¹⁰ *See also Minatoya v. Mousel*, 2 Haw. App. 1, 6 (App. 1981) (recognizing that a trespass plaintiff may seek equitable relief for a continuing trespass).

Defendants do not even attempt to explain how § 657-7 could apply where Plaintiffs' claims seek equitable abatement relief or compensation for non-physical injuries. Instead, Defendants collect cases showing that § 657-7 *could* apply to nuisance, failure-to-warn, and trespass claims that seek *compensatory* damages, then imply that § 657-7 *must* apply regardless of the relief sought through those claims. Mot. at 6.¹¹ But Defendants' approach would impermissibly strike the words "recovery of compensation" from § 657-7. See *Potter v. Haw. Newspaper Agency*, 89 Hawai'i 411, 422 (1999) (rule against surplusage). And "recovery of compensation for damage or injury" plainly refers to compensatory damages.

Notably, the Supreme Court has rejected attempts to stretch § 657-7 beyond its plain text, as Defendants try to do here. See *DW Aina Le'a Dev., LLC v. State Land Use Comm'n*, 148 Hawai'i 396, 405 (2020) (§ 657-7 inapplicable where "the true nature of the claim is not that the [defendant] physically injured property"); *Au*, 63 Haw. at 216–17 (similar); *Higa v. Mirikitani*, 55 Haw. 167, 170, 173 (1973) (§ 657-7 inapplicable to claim for "non-physical injury to an intangible interest").

C. Nullum Tempus Requires Denying the Motion.

In any case, Plaintiffs' claims are exempt from *any* statute of limitations under the common-law nullum tempus doctrine. Nullum tempus means that "statutes of limitations do not as a general rule run against the . . . government," absent "express statutory provisions to the contrary." *Keola v. Parker*, 21 Haw. 597, 598 (Haw. Terr. 1913) (quoting 25 Cyclopedia of Law & Procedure (Cyc.) 1006–07 (1907) (Ex. 3)). This "principle is applicable to all governments . . . and is essential to a preservation of the interests and property of the public." *Kahoomana v. Moehonua*, 3 Haw. 635, 640 (Haw. Kingdom 1875) (quoting *Gibson vs. Chouteau*, 80 U.S. 92, 99 (1871)); accord *Galt v. Waianuhe*, 16 Haw. 652, 657 (Haw. Terr. 1905).

In *Keola*, the Territorial Supreme Court held that "all governments" includes municipal entities like Plaintiffs. There, the defendant argued that nullum tempus was inapplicable because "the

¹¹ See *Chin Kee v. Kaeleku Sugar Co.*, 30 Haw. 17, 18 (Haw. Terr. 1927) (applying § 657-7 where trespass allegations "entitl[ed] the plaintiff . . . to only actual or compensatory damages."); *Brown v. Bigelow*, 30 Haw. 132, 133 (Haw. Terr. 1927) ("This is an action for damages . . ."); *Hays v. City & Cnty. of Honolulu*, 81 Hawai'i 391, 392, 396–99 (1996) (applying § 657-7 in a personal injury case that "essentially assert[ed] a cause of action for negligent failure to warn," and the plaintiff did not dispute § 657-7's applicability); *Aana*, 965 F. Supp. 2d at 1181 (applying § 657-7 where plaintiffs' opposition brief conceded that § 657-7 applied); *Sheppard v. Monsanto Co.*, 2016 WL 3629074, at *4 (D. Haw. June 29, 2016) (applying § 657-7 in a personal injury case); *Burmsiter v. Cnty. of Kaua'i*, 2018 WL 2050131, at *8–9 (D. Haw. May 2, 2018) (applying § 657-7 to discrete trespasses that had ended, such that there was no ongoing trespass to abate).

[plaintiff] Territory is not a sovereign power, and, therefore, it is not exempt from the operation of the statute [of limitations].” 21 Haw. at 598. The Territorial Supreme Court disagreed. It held that even if the Territory were “view[ed] . . . as a mere municipality,” its claims were subject to nullum tempus because they were “of vital importance to the people of these islands.” *Id.* at 600–01. The Territorial Supreme Court located this common-law principle in many cases and respected treatises. *Id.* at 598–99. These authorities agreed that “as respects public rights, municipal corporations are [not] impliedly within ordinary limitation statutes.” *Id.* at 599 (quoting 3 Dillon, *Municipal Corporations* § 1192 (5th ed. 1911) (Ex. 6)).¹² This understanding remains today: “A majority of jurisdictions” recognize nullum tempus where municipalities sue “in a public or governmental capacity.” *City of Colo. Springs v. Timberlane Assocs.*, 824 P.2d 776, 779 (Colo. 1992); *accord* 17 McQuillin, *L. of Mun. Corps.* § 49.8 (3d ed., July 2024 update) (Ex. 7) (“limitation[s] is no defense in actions by a city involving public or governmental rights”); 54 C.J.S. *Limitations of Actions* § 45 (May 2022 update) (Ex. 5) (similar).

Here, Plaintiffs are exempt from § 657-7 because their claims seek relief for harms to important public rights. Plaintiffs are suing because public roads, public property, and public resources have been harmed. *Compare* FAC ¶¶ 149–52, *with Keola*, 21 Haw. at 599 (protection of “public streets or places” justifies municipal nullum tempus (quotation omitted)); *Galt*, 16 Haw. at 658 (preserving “public rights, revenues and property from injury”); *cf. Okla. City Mun. Imp. Auth. v. HTB, Inc.*, 769 P.2d 131, 134–36 (Okla. 1988) (applying nullum tempus to suit by local governments regarding drinking water). Plaintiffs request relief that would protect and vindicate numerous public rights and interests identified in the Hawai‘i Constitution. *Compare* FAC ¶¶ 10, 149–52, *with* Haw. Const. art. IX, § 1 (protecting public health), § 8 (promoting healthful environment), § 9 (preserving cultural resources); art. XI, § 1 (protecting natural resources); art. XII, § 7 (protecting Native Hawaiian rights).

True, HRS § 657-1.5, which expressly codified common-law nullum tempus for the State, does not address municipalities. But common-law nullum tempus endures for municipalities because courts “refuse[] to reject common law rules absent a finding of *express* legislative intent.” *Gold Coast*, 140 Hawai‘i at 452 (quotations omitted) (emphasis added), and the Legislature has never expressly

¹² Other treatises cited in *Keola* are in accord. *See* 25 Cyc. 1008–09 (Ex. 3) (time does not run against municipalities “in litigation respecting public rights” unless “expressly designated by the statute of limitations”); 19 Am. & Eng. Ency. of Law 191 (2d ed. 1901) (Ex. 2) (“The better rule seems to be that where a municipality seeks to assert rights which are of a public nature . . . the statute of limitations will not constitute a bar unless it is expressly so provided.”).

abrogated common-law nullum tempus for municipalities.

III. Defendants Do Not Satisfy Their Burden Under the Discovery Rule.

Even assuming that HRS § 657-7 applies to Plaintiffs' claims and that Defendants' decades-long deception efforts do not constitute a continuing tort, Defendants do not demonstrate that Plaintiffs actually discovered, or should have discovered, their claims before March 2018.

The discovery rule requires Defendants to prove that Plaintiffs “discover[ed], or through the use of reasonable diligence should have discovered, (1) the damage; (2) the violation of the duty; and (3) the causal connection between the violation of the duty and the damage” before the limitations period. *Hays*, 81 Hawai‘i at 396 (quotations omitted). If Defendants do not prove actual discovery, the Court must assess what Plaintiffs *should have* discovered using a “reasonable [person] standard,” where the yardstick is “a person of common knowledge and experience.” *Ass’n of Apartment Owners of Newtown Meadows v. Venture 15, Inc.*, 115 Hawai‘i 232, 277 (2007). This standard requires only “reasonable diligence,” as “there are very few facts which” perfect diligence cannot uncover. *Id.* Because reasonableness is a fact-intensive issue, “even when there is no dispute as to the facts, it usually is for the jury to decide.” *Id.* Because Hawai‘i courts prefer resolving the discovery rule by weighing evidence at trial, *id.*, Defendants’ reliance on out-of-state cases like *Baltimore, Delaware*, and *City of New York*—which prematurely addressed the doctrine on very different records—is misplaced.¹³

Defendants fall far short of their heavy burden under Hawai‘i law. Defendants’ evidence does not establish Plaintiffs’ actual knowledge at any time before the limitations period, and Defendants’ concealment of their deception efforts impaired reasonable persons from discovering that their injuries were caused by Defendants’ deceptive conduct.¹⁴

A. Defendants Do Not Meet Their Burden to Show Plaintiffs Were Put on Notice of Their Claims Between 2015 and March 2018.

Defendants focus primarily on the period between approximately 2015 and March 2018, the beginning of the purported two-year limitations period under § 657-7. Most importantly, Defendants mischaracterize a December 2017 conversation between Honolulu’s then-Mayor, Kirk Caldwell, and

¹³ See *Minnesota v. Am. Petroleum Inst.*, 2025 WL 562630, at *19 (Minn. Dist. Ct. Feb. 14, 2025) (finding *Delaware* and *Baltimore* “unpersuasive” because claim accrual “is an issue for the factfinder”); *Vermont v. Exxon Mobil Corp.*, 2024 WL 5189025, *19 (Vt. Sup. Ct. Dec. 11, 2024) (disregarding *Delaware* and *Baltimore* because they contained “very little discussion and analysis”); cf. *City of New York*, 226 N.Y.S.3d at 884 (addressing New York’s “continuing violation” doctrine, which differs from Hawai‘i’s).

¹⁴ Also, many of Defendants’ exhibits are inadmissible to establish actual or constructive knowledge. See Plaintiffs’ Objections to Defendants’ Exhibits.

Serge Dedina, the then-Mayor of Imperial Beach, California. Defendants speculate that this conversation was part of a “meeting . . . to discuss Imperial Beach’s ongoing climate suit” and “to strategize with other climate lawsuit plaintiffs.” Mot. at 1, 17. In reality, Mayor Caldwell was attending the North American Climate Summit, a large gathering of several dozen municipal leaders that addressed how cities could support the goals of the Paris Agreement. Caldwell Decl. ¶¶ 2–4. The Summit was not convened to strategize about climate lawsuits. *Id.* ¶ 6. Mayor Caldwell had a short conversation with Mayor Dedina that mostly addressed surfing. *Id.* ¶¶ 7–8. Mayor Dedina mentioned that Imperial Beach was suing oil companies, but did not delve into the details of Imperial Beach’s lawsuit. *Id.* ¶ 9. Indeed, even *Defendants’* evidence—a 2020 interview where Mayor Caldwell recounted this conversation—reinforces that Defendants are misrepresenting this chance encounter. In the 2020 interview, Mayor Caldwell recalled running into “a guy named Serge Dedina,” “very much a surfer dude.” Defs.’ Ex. 2 at 19:07. Mayor Dedina and Mayor Caldwell discussed what types of waves they surfed. *Id.* Mayor Dedina mentioned “he had filed a lawsuit against the oil companies.” *Id.*

This passing conversation does not establish the elements of the discovery rule. The Court cannot conclude as a matter of law based on Mayor Dedina’s vague reference to “a lawsuit against oil companies” that Mayor Caldwell discovered or should have discovered “the violation of the duty” (i.e., Defendants’ multi-decade deception campaign), much less “the causal connection between the violation of the duty and the damage” (i.e., that the campaign caused injuries on O’ahu). *See Hays*, 81 Hawai’i at 396. Even if Mayor Dedina had described Imperial Beach’s lawsuit to Mayor Caldwell in detail, a plaintiff’s actual knowledge of unproved allegations in another lawsuit “would not, as a matter of law, lead to the conclusion that [they] should have filed a similar suit.” *Conmar Corp. v. Mitsui & Co. (U.S.A.), Inc.*, 858 F.2d 499, 504 (9th Cir. 1988); *see E.W. French & Sons, Inc. v. Gen. Portland, Inc.*, 885 F.2d 1392, 1400 (9th Cir. 1989) (similar).

Defendants also point to an assortment of documents between 2015 and 2017 that describe or reflect some climate harms in Hawai’i. Mot. at 8, 11–12 (citing Defs’ Exs. 11, 13, 14, 28–32). But mere knowledge about climate harms is alone insufficient for claims to accrue; claim accrual requires knowledge about the breach of duty that caused injuries, i.e., knowledge of Defendants’ deception. *Hays*, 81 Hawai’i at 396. Defendants also point to a few publications that describe other climate-related lawsuits or generally raise concerns about climate deception. *See* Mot. at 14–15, 16–17 (citing Exs. 37–52, 57–68). But none of these exhibits shows that Plaintiffs had *actual* knowledge of their claims, and reasonable minds can differ about whether these accounts *should have* put on notice a “reasonable

[person]]” in Hawai‘i of “common knowledge and experience” who exercised “reasonable” (not perfect) diligence. *Cf. Newtown Meadows*, 115 Hawai‘i at 277–78. “The fact that news about some event was *available* at a particular time does not, by itself, resolve whether a reasonable person would have read or heard that news.” *Johnson v. Multnomah Cnty. Dep’t of Cmty. Just.*, 178 P.3d 210, 216 (Or. 2008).¹⁵ And, to reiterate, even *actual* knowledge of unproved allegations in a similar lawsuit cannot trigger claim accrual as a matter of law. *See Conmar*, 858 F.2d at 504.

Summary judgment on the fact-bound issue of whether Plaintiffs *should have* discovered their claims is especially inappropriate because Defendants concealed their deception efforts. As Dr. Oreskes explains, Defendants concealed their deception campaign by funneling deception through third parties and (in ExxonMobil’s words) “shadow groups.” *See* Oreskes Decl. at 28; *id.* at 15–19. Defendants also worked to undermine the very science of climate change to cause rampant confusion. *Id.* at 23–26. This concealment raises questions of fact as to whether a reasonable person could have identified the disparate strands of deception, traced them back to Defendants, and understood that the deception was far-reaching enough to *cause* local climate injuries on O‘ahu. *See Hays*, 81 Hawai‘i at 396 (accrual requires actual or constructive knowledge of “the causal connection between the violation of the duty and the damage”). Indeed, public knowledge about Defendants’ climate deception has developed only recently because of concerted investigations by journalists, scholars, congressional committees, and other subject-matter experts that did not commence in earnest until the mid to late 2010s. Oreskes Decl. at 34–40. In fact, the first congressional hearing on climate denialism did not occur until 2019. Ex. 241 at 2. To this day, no Defendant in this litigation has conceded that they have deceived. These facts, which underscore that Plaintiffs were diligent under the circumstances, preclude finding as a matter of law that Plaintiffs should have sued earlier than they did.

B. Defendants’ Evidence Does Not Show that Plaintiffs Discovered, or Could Have Discovered, Their Claims “Long Before” They Sued.

Next, Defendants theorize that Plaintiffs have been on notice of their claims since “long before” March 2018, perhaps even “for decades.” Mot. at 2–3, 17, 20. But none of Defendants’ exhibits establishes actual or constructive knowledge under the reasonable-person standard.

¹⁵ *Accord Litif v. United States*, 670 F.3d 39, 45 (1st Cir. 2012) (finding “early and relatively sparse newspaper coverage” insufficient and requiring “local notoriety” (cleaned up)); *Landers v. Ford Motor Co.*, 2024 WL 489169, at *2 (9th Cir. Feb. 8, 2024) (unpublished) (“[I]t is not the law in California that public awareness of a problem through media coverage alone creates constructive suspicion for purposes of [the] discovery [rule].” (quotations omitted)).

Primarily, Defendants focus on a 2001 editorial by Honolulu’s then-Mayor, Jeremy Harris. The editorial vaguely described “paid propaganda and phony science [by] the automobile and energy industries” that had “won one disciple”: President George W. Bush. *See* Defs.’ Ex. 1. At most, the editorial supports an inference that Mayor Harris had may have suspected *some* deception by unspecified members of the *automobile and energy* industries directed at the President. *See id.* (emphasis added). The editorial does not establish that Plaintiffs knew or should have known about “the violation of [] duty,” *see Hays*, 81 Hawai‘i at 396, that animates their claims: a long-running deception campaign by Defendants that targeted many consumers and the broader public. Nor does the editorial show that Plaintiffs were on notice of industry deception that was far-reaching enough to cause climate injuries on O‘ahu. *See id.* (referring to “the causal connection between the violation of the duty and the damage”). In fact, as discussed, Defendants’ concealment of their deception has made it difficult to discover that connection. *See Oreskes Decl.* at 38–40.

Defendants’ other exhibits change nothing. First, Defendants identify a few equivocal exhibits describing some deception relating to climate change, including news coverage of the *Kivalina* lawsuit. Mot. at 13–16 (Defs.’ Exs. 6, 33–36, 53–56). None of these exhibits describes a far-reaching fossil fuel industry deception campaign that actually meaningfully worsened climate change and caused harm on O‘ahu. And whether an allegation in another’s lawsuit can trigger claim accrual is a question of fact for the factfinder. *See Conmar*, 858 F.2d at 504. Likewise, the availability of information *somewhere* in the public domain does not resolve as a matter of law what a reasonable person should have discovered using reasonable but imperfect diligence. *See Johnson*, 178 P.3d at 216. Second, Defendants proffer random exhibits that describe climate change or localized climate injuries, such as Hawai‘i’s 2001 clean energy rules, a document expressing the City’s support of emissions reductions in 2005, and a 2007 United Nations climate change report. Mot. at 2, 7–12 (citing, e.g., Defs.’ Exs. 3, 5, 8). To reiterate, mere knowledge of injury is insufficient for claim accrual. *See Hays*, 81 Hawai‘i at 396.

Finally, Defendants argue incorrectly that the relevant causal connection is not between their *deception* and Plaintiffs’ injuries, but rather between *fossil fuel products* and Plaintiffs’ injuries. *E.g.*, Mot. at 1. But the Hawai‘i Supreme Court has defined the question as “the causal connection between the violation of the duty and the damage,” *Hays*, 81 Hawai‘i at 396. Here, “Defendants’ liability is causally tethered to their failure to warn and deceptive promotion.” *Honolulu*, 153 Hawai‘i at 354 (quotations omitted).

Defendants’ theory that Plaintiffs could have discovered their climate-deception claims long ago is unsupported by their evidence and subject to many material factual disputes.

C. Defendants Do Not Show that the Honolulu Mayor’s Knowledge Can Be Attributed to BWS, a Semi-Autonomous Agency.

Finally, Defendants are mistaken to assume without evidence that any Honolulu mayor’s knowledge is attributable to BWS, which is semi-autonomous of the City & County and its mayor. BWS is its own “public body, corporate and politic, with the authority to sue and be sued.” Revised Charter of Honolulu (“RCH”) § 3-121. Although the Honolulu mayor appoints most of the board members that constitute BWS (subject to Council confirmation), the mayor is neither an officer nor an agent of BWS, does not have oversight powers over BWS (other than the power to request an audit), does not participate in BWS’s day-to-day activities, and cannot remove BWS board members. *See Declaration of Ernest Y.W. Lau ¶¶ 2–9*. Defendants fall short of their burden on this issue.

IV. Alternatively, the Court Should Allow Additional Discovery Under HRCP 56(f).

Alternatively, this Court should deny Defendants’ Motion because Defendants’ attempt at premature summary judgment has impaired Plaintiffs’ ability to develop evidence of “facts essential to justify [their] opposition.” HRCP 56(f); *see Ralston*, 129 Hawai‘i at 63 (HRCP 56(f) helps parties “ensure that they have adequate time to respond to a motion for summary judgment”). Plaintiffs have not yet had any meaningful opportunity to conduct discovery, given Defendants’ refusal to produce documents.

Rule 56(f) “provides a mechanism for litigants to seek a continuance or avoid summary judgment when they need to discover essential facts to justify their opposition.” *Exotics Hawai‘i-Kona, Inc. v. E.I. Du Pont De Nemours & Co.*, 116 Hawai‘i 277, 308 (2007) (quotation omitted). Because the rule’s purpose is “to provide an additional safeguard against an improvident or premature grant of summary judgment,” “it should be applied with a spirit of liberality.” *Mobley v. Kimura*, 146 Hawai‘i 311, 327 n.26 (2020). Under Rule 56(f), the party opposing summary judgment may make “a good faith showing” that discovery “would enable [the party] to discover additional evidence which might rebut the movant’s showing of the absence of a genuine issue of material fact.” *Exotics Hawai‘i-Kona, Inc.*, 116 Hawai‘i at 308.

Those are precisely the circumstances here. First, even if Defendants had met their initial burden, Plaintiffs have not yet had the opportunity to conduct substantial discovery. In response to Plaintiffs’ document requests served eight months ago, BP has produced only 595 documents, and all other Defendants have each produced *fewer than 40 documents*, consisting almost entirely of public

reports and SEC filings. Biehl Decl. at 3–5. They have produced nothing more despite repeated conferral efforts pressed by Plaintiffs, which will force Plaintiffs to proceed with motion practice before Discovery Referee Hyatt imminently. And, critically, they have produced nothing related to material factual disputes here.

Plaintiffs’ pending discovery requests are directly applicable to this Motion. For example, discovery on Defendants’ climate change communications¹⁶ is critical to understanding the extent of Defendants’ misleading statements each year—and thus to establishing “some evidence” that Defendants’ deceptive statements “occur[red] so repeatedly that it can be termed ‘continuous.’” *Anderson*, 88 Hawai‘i at 248–50. For that reason alone, the Court should deny Defendants’ Motion. *See Crutchfield v. Hart*, 2 Haw. App. 250, 252 (App. 1981) (where “interrogatories to appellee were . . . pending and unanswered” at summary judgment, “the court below should have given appellant a reasonable opportunity for further discovery”).

Second, Plaintiffs have identified specific facts that discovery “might unveil.” *Exotics Hawai‘i-Kona, Inc.*, 116 Hawai‘i at 308. For example, as Dr. Oreskes describes, Defendants’ deception campaign used a range of techniques to conceal and disguise their role in disseminating deception, including pushing messages through third-party front groups. Without access to documents relating to those groups, Plaintiffs are unable to prove the full extent of Defendants’ tortious conduct each year—and thus are hampered in demonstrating exactly how continuous Defendants’ tortious conduct was and is. Additionally, Plaintiffs have not been able to discover the full extent of Defendants’ concealment of their deceptive activity, which is important to disputing when Plaintiffs should have been on notice of their claims under the discovery rule. As the Declaration of Stephanie Biehl (Biehl Decl.) details, it is critical for Plaintiffs to access all of the discovery they have propounded, including (a) communications between Defendants and front groups regarding their roles in promoting Defendants’ deceptive messaging; (b) financial documents connecting Defendants to front groups; (c) Defendants’ internal memoranda describing their motives for working with third parties; and (d) records of presentations to boards of directors (including PowerPoints, agendas, and contemporaneous notes) describing how often and how closely Defendants worked with front groups to promote uncertainty about climate science. Biehl Decl. at 13–26.

¹⁶*See* Request 1 for “Exemplary Copies of all Public Climate Change Communications that [Defendants] Circulated or made available to consumers or the public.”

Additionally, Defendants’ Motion briefly asserts that Plaintiffs cannot establish tortious conduct from 2018–2020 because their more recent misleading statements simply discuss “the need for cleaner and more climate-friendly energy sources.” Mot. at 19. Full discovery is essential for Plaintiffs to prove that Defendants’ greenwashing and other recent misleading statements are an extension and continuation of their deceptive conduct. As the Biehl Declaration describes in specific detail, Plaintiffs need access to (a) Defendants’ internal communications about their motives and goals for advertising campaigns; (b) Defendant and third-party discovery regarding advertising agencies and public relations firms about communications with Defendants; (c) third-party discovery to ad agencies about the public relations firms and advertising agencies’ strategies to accomplish Defendants’ goals; (d) presentations, agendas, or notes from meetings about how greenwashing promotes Defendants’ fossil fuel products; (e) communications and financial documents revealing the full extent of Defendants’ research and spending on renewable energy, and communications and financial documents revealing the full extent of Defendants’ spending on fossil fuel production; (f) documents on Defendants’ historic, current, and planned expansion of fossil fuel production and development; (g) Defendants’ investment in and capacity for Carbon Capture and Storage (“CCS”); (h) all of Defendants’ deceptive ads and misleading statements from decades ago through today; (i) Defendants’ internal assessments of their consistency with the Paris Agreement; and (j) Defendant and third party discovery regarding the effect of their campaigns and public statements on consumers and the public. Biehl Decl. at 26–34.

Finally, the Supreme Court has made clear that the purpose of Rule 56(f) is “to provide an additional safeguard against an improvident or premature grant of summary judgment” and “it should be applied with a spirit of liberality.” *Mobley*, 146 Hawai‘i at 327 n.26. That spirit is especially apt for cases involving issues of public importance, like this one. *See Cobb*, 63 Haw. at 458 (“[I]n cases of public importance summary judgments should be granted sparingly, and never on limited and indefinite factual foundations.”); *accord Leong v. Takasaki*, 55 Haw. 398, 402 (1974) (“We have previously reversed an entry of summary judgment where we believed that a final decision in a case of such vast public importance should not be based on a limited and indefinite factual foundation.”).

CONCLUSION

The Motion should be denied.

Dated: May 9, 2025
Honolulu, Hawai'i

Respectfully submitted,

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IN THE CIRCUIT COURT OF THE FIRST CIRCUIT
STATE OF HAWAII

CITY AND COUNTY OF HONOLULU and
HONOLULU BOARD OF WATER
SUPPLY,

Plaintiffs,

vs.

SUNOCO LP; ALOHA PETROLEUM,
LTD.; ALOHA PETROLEUM LLC; EXXON
MOBIL CORP.; EXXONMOBIL OIL
CORPORATION; ROYAL DUTCH SHELL
PLC; SHELL OIL COMPANY; SHELL OIL
PRODUCTS COMPANY LLC; CHEVRON
CORP.; CHEVRON USA INC.; BHP GROUP
LIMITED; BHP GROUP PLC; BHP
HAWAII INC.; BP PLC; BP AMERICA
INC.; MARATHON PETROLEUM CORP.;
CONOCOPHILLIPS; CONOCOPHILLIPS
COMPANY; PHILLIPS 66; PHILLIPS 66
COMPANY; AND DOES 1 through 100,
inclusive,

Defendants.

CIVIL NO. 1CCV-20-0000380 (LWC)

(Other Non-Vehicle Tort)

**DECLARATION OF NAOMI
ORESKE, PH.D.**

**DECLARATION OF NAOMI ORESKE, Ph.D. IN SUPPORT OF PLAINTIFF'S
OPPOSITION TO DEFENDANT'S MOTION FOR SUMMARY JUDGMENT BASED
ON THE STATUTE OF LIMITATIONS**

I, Naomi Oreskes, declare as follows:

1. Summary of Opinions

I am an earth scientist, a historian of science, and an expert in the role of science in society, the reality of anthropogenic climate change, and the role of disinformation in blocking climate action. My opinion in this declaration is based on more than 20 years of research on the history of climate science, and on the history of attempts to undermine, distract attention from, and confuse the American public about that science.

The fossil fuel industry and its allies and surrogates created an organized campaign to foster and sustain doubt about anthropogenic global warming and prevent meaningful action. They did this by influencing consumers and the general public. It is my expert opinion that Defendants have participated in this campaign for more than the last half century, and that their behavior continues today.

- Section 2 of this declaration outlines my qualifications and prior research, including my extensive academic work exploring deceptive techniques used by the fossil fuel industry, among others, to exaggerate scientific uncertainty about the harms of their products.
- Section 3 explains how the fossil fuel industry, including Defendants, used a systematic, organized campaign to sow doubt about the science of anthropogenic global warming and prevent meaningful action that has existed continuously since the 1980s. I explain the common features of this deception campaign, including:
 - (1) discrepancies between Defendants' internal knowledge and external communications;
 - (2) reliance on third party allies—including front groups and trade associations—with whom they collaborated on messaging, helped to fund, or helped to create;
 - (3) employing rhetoric downplaying the reality and consequences of climate change;
 - (4) challenging the state of the science about climate change and potential solutions, and disparaging climate science and scientists;
 - (5) a lack of appropriate disclosures about Defendants' products; and
 - (6) a motivation to protect and further their business interests through continued production, development, and sales of their fossil fuel products.
- Section 4 describes how public knowledge of Defendants' deceptive conduct has evolved slowly over time.
 - While some of my foundational work studying Defendants' methods and actions was conducted in the 2000s, the full extent of fossil-fuel companies' early knowledge about climate change and their deceptive conduct have continued to become evident in the past few years, including through publications by

investigative journalists, academic work, and an investigation by the U.S. House Committee on Oversight and Accountability and the U.S. Senate Budget Committee, which published a joint report on its findings in April 2024.¹

- The gradual development of public knowledge about Defendants' deception occurred in part because Defendants concealed their deceptive conduct by relying on front groups, trade associations, contrarian scientists, and other third parties to deploy climate denial and disinformation on their behalf.
- The decades-long campaign of deception worked, and still works, on the public, and each feature of the deception campaign remains effective to this day.

2. Qualifications

I am the Henry Charles Lea Professor of the History of Science and an Affiliated Professor of Earth and Planetary Sciences at Harvard University, where I have taught since 2013. Prior to teaching at Harvard, I held academic appointments as a professor of history and an adjunct professor of geosciences at the University of California, San Diego (2005-2013), and as an assistant professor of earth sciences and an adjunct professor of history at Dartmouth College (1990-1996). I also served as a visiting professor at the California Institute of Technology (Caltech) in 2010 and have taught at New York University.

I have a Ph.D. from Stanford University in geological research and the history of science, and a B.Sc. (first class honours) in mining geology from the Royal School of Mines, Imperial College, University of London, where I graduated first in my class. I have also been awarded eight honorary degrees, including from l'Université Libre de Brussels, Doctor Honoris Causa (2023); ETH Zurich, Honorary Ph.D. (2018); and the University of British Columbia, Juris Legum (LL.D), 2018.

I am an elected fellow or member of numerous academic honor societies, including the American Association for the Advancement of Science, the American Academy of Arts and Sciences, the American Philosophical Society, and the American Geophysical Union. I have received numerous awards and honors from scientific societies, including being elected an American Geophysical Union Ambassador and Fellow (2016), the Geological Society of America Public Service Award (2015), the American Geophysical Union Presidential Citation for Science and Society (2014), and the Geological Society of America Mary C. Rabbitt Award (2019).

I have also received wide recognition as a historian, including the Francis Bacon Medal for outstanding scholarship in the history of science and technology (2009), the American Historical

¹ House Committee on Oversight and Accountability and Senate Committee on the Budget, *Denial, Disinformation, and Doublespeak: Big Oil's Evolving Efforts to Avoid Accountability for Climate Change*, Joint Staff Report (2024), https://www.budget.senate.gov/imo/media/doc/fossil_fuel_report1.pdf.

Association Herbert Feis Prize for Public History (2014), the William T. Patten Visiting Lectureship, Indiana University (2015), and delivering the Tanner Lectures on Human Values at Princeton University (2016). In 2016, I was awarded the Stephen H. Schneider Award for Outstanding Climate Science Communication; from 2018 to 2019 I held a Guggenheim Fellowship; and in 2019 I was awarded the British Academy Medal.

My research has been supported by the U.S. National Science Foundation, the U.S. National Endowment for the Humanities, the American Philosophical Society, NASA, and NOAA, as well as by other private sources and foundations. I have also served as a consultant to the U.S. Environmental Protection Agency (EPA), the U.S. National Academy of Sciences, and the Council of Canadian Academies.

I have devoted a major portion of my career to investigating and writing about how companies respond to emerging science that threatens their business model or products. My research and publications have included studying the fossil fuel industry's behavior in response to emerging and solidifying scientific knowledge about the relationship between their products and climate change.

I am one of the leading academic experts on the history and development of climate science and the consensus among international climate scientists that fossil fuels cause climate change and that climate change poses serious risks to the Earth. I have lectured extensively on the issue of climate change, including climate change denial. I have also researched, lectured, and written on scientific uncertainty, including its use and meaning in science by scientists; its use and misuse by industries responding to emerging challenges of their products generally; and by the fossil fuel industry specifically in seeking to cast doubt or disparage climate science and the role of the fossil fuel industry's products in causing and exacerbating climate change.

I am the author or co-author of nine books on subjects relevant to this case, including, in particular, *Merchants of Doubt* (2010); *The Collapse of Western Civilization* (2014); *Discerning Experts: The Practices of Scientific Assessment for Environmental Policy* (2019); *Why Trust Science?* (2019); *Science on a Mission: How Military Funding Shaped What We Do and Don't Know about the Ocean* (2021); and *The Big Myth: How American Business Taught us to Loathe Government and Love the Free Market* (2023). I also wrote the Introduction to the Melville House edition of *Laudato Si' the Papal Encyclical on Climate Change and Inequality* (2015). I have edited two books on the history of science and technology in the 20th century: Oreskes, Naomi and John Krige, editors, *Science and Technology in the Global Cold War* (MIT Press, 2014); Oreskes, Naomi, editor, with Homer E. Le Grand, *Plate Tectonics: An Insider's History of the Modern Theory of the Earth* (Boulder: Westview Press, 2001).

I have also authored or co-authored more than 150 articles, including both academic and popular articles on scientific consensus and the concept of "science denial." Among other topics, I have researched and co-authored multiple articles about efforts by the fossil fuel industry, in particular ExxonMobil, to deny the existence of a scientific consensus on man-made climate

change, or to create public doubt, about the connection between fossil fuels and climate change. I and co-author Geoffrey Supran published the following peer-reviewed articles between 2017 and 2023:

- Geoffrey Supran and Naomi Oreskes, “Assessing ExxonMobil’s climate change communications (1977-2014),” *Environ. Res. Lett.* (2017), <https://iopscience.iop.org/article/10.1088/1748-9326/aa815f#fnref-erlaa815fr11>;
- Geoffrey Supran and Naomi Oreskes, “Addendum to ‘Assessing ExxonMobil’s climate change communications (1977–2014)’,” *Environ. Res. Lett.* (2020), <https://iopscience.iop.org/article/10.1088/1748-9326/ab89d5>;
- Geoffrey Supran and Naomi Oreskes, “Rhetoric and frame analysis of ExxonMobil’s climate change communications,” *Science Direct* (2021), <https://www.sciencedirect.com/science/article/pii/S2590332221002335>; and
- Geoffrey Supran, Naomi Oreskes, and Stefan Rahmstorf, “Assessing ExxonMobil’s global warming projections,” *Science* (2023), <https://www.science.org/doi/10.1126/science.abk0063>.

I have testified nine times in the U.S. Congress on issues related to climate science, climate change, and the environment, including the role of ExxonMobil and other fossil fuel companies with respect to climate change—most recently the U.S. Senate Budget Committee on June 22, 2023. I have also testified to the U.S. Nuclear Waste Technical Review Board; the California State Senate; and the Belgian House of Representatives, Special Committee on Climate Change and Sustainable Development.

Before becoming an academic, I earned my Ph.D. in geological research and history of science from Stanford University, I have worked as a professional exploration geologist in the mining industry in the United States and Australia. During my graduate studies, I studied the disposal of radioactive waste, an issue closely related to the subsurface storage of carbon dioxide. I have served as an expert witness to the U.S. Nuclear Waste Technical Review Board, as a consultant to the EPA, and as a reviewer to the Department of Energy regarding issues of radioactive waste disposal. I currently teach undergraduate students about geoengineering and carbon capture and storage (CCS).

My academic training, work experience, and continuing academic work in geology and earth science, coupled with my experience as an historian of science, has provided a framework for understanding how (1) various companies responded to concerns about their products, including companies in the tobacco industry, the chemical industry, and the fossil fuel industry; (2) how the fossil fuel industry specifically misrepresented the science of climate change, including its causes and effects; (3) how fossil-fuel companies grossly exaggerated scientific uncertainties about the harms of their product; (4) how fossil fuel companies grossly exaggerated the feasibility of proposed climate solutions such as CCS (and downplayed the uncertainties, in contrast to how they treated the uncertainties in climate science); and (5) why fossil-fuel

companies' climate denial and greenwashing statements are deceptive.

3. Defendants' Ongoing Deceptive Conduct

The fossil fuel industry and its allies and surrogates created an organized campaign to foster and sustain doubt about anthropogenic global warming and prevent meaningful action. They did this by influencing consumers and the general public. It is my expert opinion that Defendants have participated in this campaign for more than the last half century, and that their behavior continues today.

My research shows that fossil fuel companies, including Defendants, engaged in disinformation efforts that can be viewed as taking place across several critical periods. Starting in the mid-1960s, the fossil fuel industry became aware that continued use of their fossil fuel products posed serious threats to the planet's climate and people. During the early years—roughly from 1965 until the late 1980s—the fossil fuel industry developed a sophisticated understanding of the link between emissions from their products, atmospheric carbon dioxide concentrations, and potentially dire climate-related impacts. They also recognized that efforts to mitigate or avoid these impacts threatened their businesses, particularly by potentially reducing or even eliminating demand for their products. But they never appropriately acknowledged to consumers or the public the true consequences of perpetuating the dominance of fossil fuels as sources of energy.

From the 1990s to the mid-2000s, the fossil fuel industry, including Defendants, added express, public-facing denials of climate change and the link between their products and climate-related consequences to people and the planet.² Starting in the mid-2000s and continuing through today, the fossil fuel industry, including Defendants, purported to acknowledge climate change, but have done so only implicitly, and have never acknowledged that their previous statements were misleading.³ Nor have they accepted the scientific evidence of the need to reduce fossil fuel use. And, they have continued to insist that the public and the world still need more fossil fuels.

Today, the fossil fuel industry, including Defendants, do not appropriately publicize that climate change is caused from the burning of fossil fuels; instead, they frame themselves as acting responsibly in response to climate risks, all while their business model remains based on continued development, sale, and use of fossil fuels.⁴ The purpose of this behavior has been to protect fossil

² Supran and Oreskes, "Assessing ExxonMobil's climate change communications (1977-2014)," *Environ. Res. Lett.* (2017), <https://iopscience.iop.org/article/10.1088/1748-9326/aa815f#fnref-erlaa815fr11>.

³ Supran and Oreskes, "Addendum to 'Assessing ExxonMobil's climate change communications (1977-2014),'", *Environ. Res. Lett.* (2020), <https://iopscience.iop.org/article/10.1088/1748-9326/ab89d5>; Supran and Oreskes, "Rhetoric and frame analysis of ExxonMobil's climate change communications," *Science Direct* (2021), <https://www.sciencedirect.com/science/article/pii/S2590332221002335>.

⁴ Supran and Oreskes, "Addendum to 'Assessing ExxonMobil's climate change communications (1977-2014),'", *Environ. Res. Lett.* (2020), <https://iopscience.iop.org/article/10.1088/1748-9326/ab89d5>; Supran and Oreskes, "Rhetoric and frame analysis of ExxonMobil's climate change communications," *Science Direct* (2021), <https://www.sciencedirect.com/science/article/pii/S2590332221002335>.

fuel business interests.⁵

In my expert opinion, this is all part of a decades-long deception campaign that is ongoing today and has displayed persistent features over time. Today, fossil fuel companies, including Defendants, still push disinformation about anthropogenic global warming and make public statements that contradict climate science, diverge from their internal discussions, and do not match their corporate behavior. While the companies have engaged in deceptive behavior to varying degrees at different times, and sometimes in varying ways, the methods they have used and the types of deception they have employed are consistent with features described in this Section. Moreover, throughout the past 60 years, the companies have used their allies and surrogates to perpetrate their campaign of deception collectively, including most prominently through the American Petroleum Institute (“API”) and other trade associations.

A. Overview of the Fossil Fuel Industry’s Knowledge

To understand how the fossil fuel industry’s deception campaign has operated and been updated over time, I offer a brief overview of the fossil fuel industry’s knowledge about climate change and knowledge of the link between fossil fuel products and climate change impacts. This knowledge is the foundation of their deceptive behavior. The examples below are not intended to be exhaustive; they are provided as specific illustrations that I have considered in my research to provide the basic context for Defendants’ deceptive behavior.

By the 1960s and through the 1980s, the fossil fuel industry, including Defendants, developed extensive knowledge about climate change, the role of fossil fuels in causing climate change, and its likely effects. They gained this knowledge through internal company research, information shared through industry fora and trade associations such as the API, research by academic scientists and scientists in government laboratories, and from national and international governmental bodies.

For example, as early as the 1960s, the API and its members knew about a groundbreaking scientific report that found that “carbon dioxide is being added to the earth’s atmosphere by the burning of coal, oil, and natural gas at such a rate that by the year 2000 the heat balance will be so modified as possibly to cause marked changes in climate beyond local or even national effort.”⁶ In an address to the API’s members, API President Frank Ikard discussed the report in detail, quickly recognizing the significance of the report to the fossil fuel industry.⁷ He explained that the report found that “the pollution from internal combustion engines is so serious, and is growing so fast, that an alternative nonpolluting means of powering automobiles, buses, and trucks is likely to

⁵ Cook, Supran, Lewandowsky, Oreskes and Maibach, “America Misled: How the fossil fuel industry deliberately misled Americans about climate change,” Fairfax, VA: George Mason University Center for Climate Change Communication, https://www.climatechangecommunication.org/wp-content/uploads/2023/09/America_Misled.pdf.

⁶ Frank N. Ikard, *Meeting the Challenges of 1966*, in Proceedings of the Am. Petroleum Inst. (1965) at 13, <https://www.documentcloud.org/documents/5348130-1965-API-Proceedings/>.

⁷ *Ibid.*

become a national necessity.”⁸ He acknowledged that “the substance of the report is that there is still time to save the world’s peoples from the catastrophic consequences of pollution, but time is running out.”⁹

The API subsequently commissioned a report from the Stanford Research Institute (SRI) to assess this and other environmental pollutant issues.¹⁰ The report was produced to the API in 1968.¹¹ The SRI report concluded that, due to carbon dioxide emissions, “[s]ignificant temperature changes are almost certain to occur by the year 2000 and these could bring about climatic changes.” It acknowledged that “[i]f the earth’s temperature increases significantly,” consequences could include “the melting of the Antarctic ice cap,” “a rise in sea levels,” and “warming of the oceans.”¹²

The API’s knowledge grew deeper in the subsequent decades. In 1982, an internal working group at the API – with staff and participants from Defendants – predicted warming between 2°C and 3.5° C, with “serious consequences for man’s comfort and survival,” and noted “the height of the sea level can increase considerably.”¹³ Throughout the 1980s, the API and its members shared cutting-edge climate research among the fossil-fuel industry through a CO₂ and Climate Task Force, later renamed the Climate and Energy Task Force. The task force “included senior scientists and engineers from nearly every major U.S. and multinational oil and gas company,” including Exxon, Mobil, Shell, Phillips, Sunoco, Chevron predecessors, and a BP predecessor.¹⁴ At the 1980 meeting of this Task Force, John Laurman, a scientist, presented to the group that there was a “scientific consensus on the potential for large future climatic response to increased CO₂ levels,” and noted the “realization that remedial actions would take a long time to become effective.” He also acknowledged the fact that global warming would become a serious problem long before fossil fuel resources were depleted.¹⁵ Laurman said that if fossil fuels were not controlled, the “likely impacts” would include a 2.5°C rise in temperature by 2038, which would have “MAJOR ECONOMIC CONSEQUENCES,” and a 5°C rise by 2067, which would cause “GLOBALLY CATASTROPHIC EFFECTS.”¹⁶ He also noted that the effect of natural climate variability in scientific models of climate change was small.¹⁷

⁸ *Ibid.*

⁹ *Ibid.*

¹⁰ Elmer Robinson and R.C. Robbins, *Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants*, Stanford Research Institute 3 (1968), <https://www.smokeandfumes.org/documents/document16>.

¹¹ *Ibid.* at 109.

¹² *Ibid.* at 108.

¹³ Alan Oppenheim and William L. Donn, *Climate Models and CO₂ Warming: A Selective Review and Summary*, Lamont-Doherty Geological Observatory (Columbia University) (1982), <https://www.climatefiles.com/trade-group/american-petroleum-institute/api-climate-models-and-co2-warming-a-selective-review-and-summary/>.

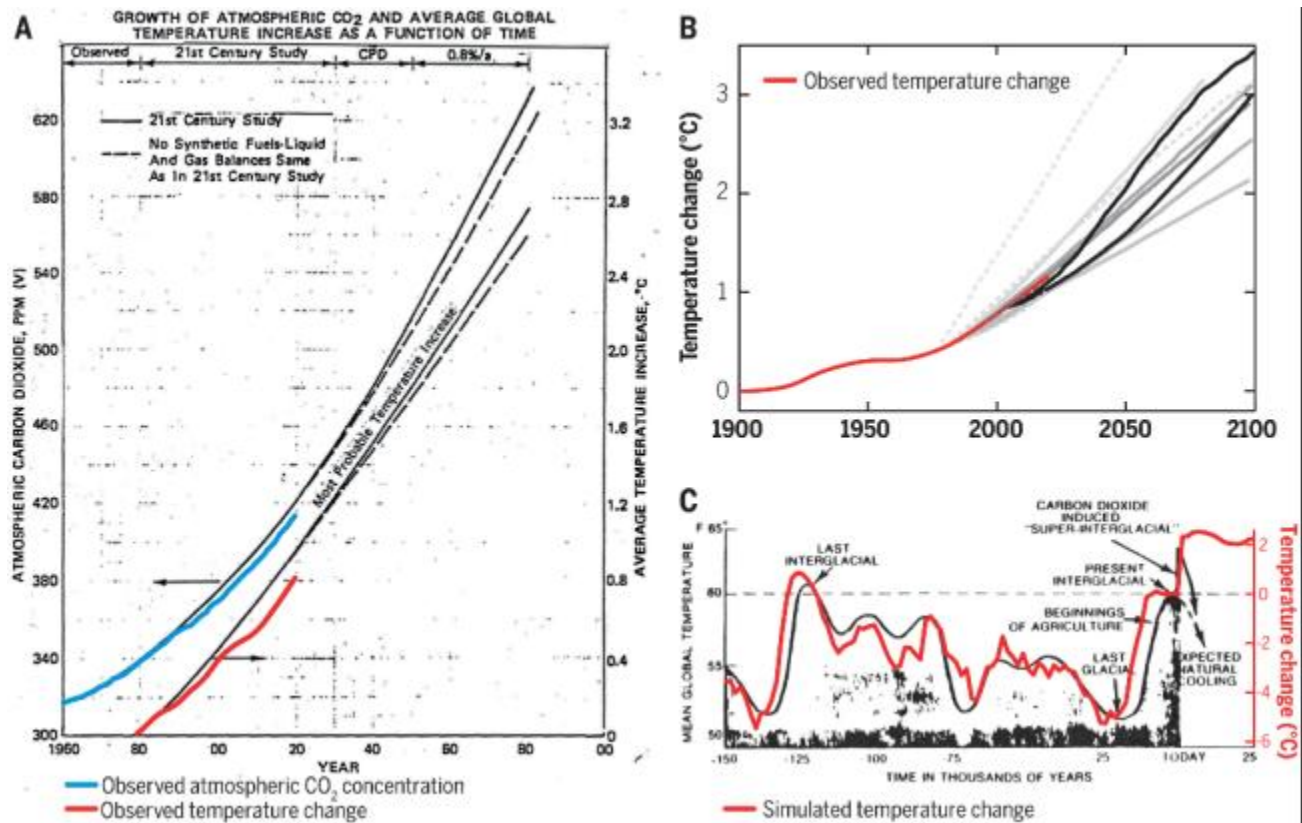
¹⁴ Neela Banerjee, “Exxon’s Oil Industry Peers Knew About Climate Dangers in the 1970s, Too,” *Inside Climate News* (Dec. 22, 2015), <https://insideclimatenews.org/news/22122015/exxon-mobil-oil-industry-peers-knew-about-climate-change-dangers-1970s-american-petroleum-institute-api-shell-chevron-texaco/>.

¹⁵ American Petroleum Institute, February 9, 1980 AQ-9 Task Force Meeting Minutes, <https://www.climatefiles.com/climate-change-evidence/1980-api-climate-task-force-co2-problem/>

¹⁶ *Ibid.*

¹⁷ *Ibid.*

The fossil fuel industry's early research into anthropogenic global warming was accurate. My research has shown that models created by ExxonMobil predicted “global warming correctly and skillfully.”¹⁸ In Figure 1, below, my colleagues and I overlaid historically observed temperature changes (in red) and atmospheric carbon dioxide concentration (in blue) onto the models created by ExxonMobil scientists in the 1980s.



As Figure 1 shows, ExxonMobil's models accurately forecast warming that is eerily consistent with subsequent observations.¹⁹

Other companies also knew the significant degree to which the fossil fuel industry had likely already caused some global warming – and in the future would cause significant additional and consequential warming. Their knowledge is evidenced through their participation in the API, as discussed above, as well as through their internal and industry studies, and through academic work which they were following. For example, in the late 1980s, Shell created confidential internal reports in which the company described the greenhouse effect as occurring “largely as a result of burning fossil fuels and deforestation.”²⁰ Shell further stated internally that “concern that further

¹⁸ Geoffrey Supran, Naomi Oreskes, and Stefan Rahmstorf, “Assessing ExxonMobil's global warming projections,” *Science* (2023), <https://www.science.org/doi/10.1126/science.abk0063>.

¹⁹ *Ibid.*

²⁰ Shell Briefing Serv., *Air pollution: An Oil Industry Perspective*, 1 SBS 4 (1987), <https://www.documentcloud.org/documents/24359057-shell-briefing-service-air-pollution-an-oil-industry-perspective-nr1-1987/>.

increases in carbon dioxide levels could cause climatic changes, notably a rise in overall temperature, having major environmental, social and economic consequences.”²¹ In a 1988 internal report, “The Greenhouse Effect,” Shell came to the conclusion that burning fossil fuels is the primary driver of global warming and that “the potential implications for the world are . . . so large that policy options need to be considered much earlier” and that research should be “directed more to the analysis of policy and energy options than to studies of what we will be facing exactly.”²²

As the above indicates, the fossil fuel industry, including Defendants, have long understood that anthropogenic global warming was occurring and that it would have serious or even “globally catastrophic effects” if it went unheeded. They also knew that their fossil fuel products were the dominant cause of this phenomenon. However, the fossil fuel industry almost never admits that knowledge to consumers and the broader public. Instead, they have engaged in disinformation efforts that question or downplay climate change in order to protect their business interests. As I explain in detail in the next section, they have engaged in this conduct for decades.

B. Persistent Features of Defendants’ Deception Campaign.

I now explain the continuity of Defendants’ conduct since the mid-1960s. Defendants’ deception has displayed persistent features over time. First, there are vast discrepancies between Defendants’ internal discussions and behavior, and their external communications to consumers and the public. Second, Defendants rely consistently on front groups, trade associations, and other third parties to promote their deceptive narrative. Third, they regularly employ rhetoric downplaying anthropogenic global warming and downplaying the feasibility of reducing fossil fuel use. Fourth, they systematically disparage the state of the science about anthropogenic global warming and possible solutions. Fifth, in all the examples in this declaration and the materials I have relied on, Defendants do not explicitly acknowledge to consumers the true cost of using their fossil fuel products, that is, that their products are the primary cause of climate change. Sixth, their motivation is to protect their ability to sell fossil fuels, their primary business interest. I now explain how each of these features has existed across the entire arc of Defendants’ deception.

i. Discrepancies

A key continuity in the long period of deception by the fossil fuel industry is the existence of widespread and systematic discrepancies between what Defendants and their allies say in public communications about anthropogenic global warming and what they say in private or in communications intended for industry audiences. In the earliest days, the fossil fuel industry, including Defendants, improved their own understanding of the consequences of continued emissions from using fossil fuels. Later they expressly denied anthropogenic global warming

²¹ *Ibid.* at 5.

²² Shell Internationale Petroleum, Greenhouse Effect Working Group, *The Greenhouse Effect*, (May 1988), at 1, 27 <https://embed.documentcloud.org/documents/4411090-%20Document3/#document/p9/a411239>.

despite their understanding, and despite accurately predicting its existence and magnitude. More recently, they publicly trumpet their commitment to reducing emissions and promoting cleaner energy sources while internally questioning emissions reductions targets and heavily investing in expanding their fossil fuel production.

In fact, instead of sharing their knowledge, Defendants did not disclose to consumers or the public the climate change consequences they were aware their products would cause. Indeed, the fossil fuel industry started in the late 1980s repeatedly to challenge the very existence of climate change and fossil fuels' central role in causing it. In 1988, Exxon public affairs manager Joseph Carlson, stated in an internal memo that Exxon "is providing leadership through [the] API in developing the petroleum industry position" on "the greenhouse effect."²³ Carlson then described the "Exxon Position," which included messaging efforts that featured covering up the fossil fuel industry's internal knowledge, such as: (1) "[e]mphasiz[ing] the uncertainty in scientific conclusions regarding the potential enhanced Greenhouse Effect"; and (2) "[r]esist[ing] the overstatement and sensationalization [sic] of potential greenhouse effect which could lead to noneconomic development of nonfossil fuel resources."²⁴

The API integrated the "petroleum industry position" into its public statements. For example, in 1995, the Intergovernmental Panel on Climate Change (IPCC) issued a report finding that there was "a discernible human influence on global climate,"²⁵ and also describing climate effects that were "likely" related to the "rise in global temperature," such as rising sea levels and an increase in rainfall from extreme events.²⁶ Hundreds of scientists were involved with the IPCC report, as authors or reviewers.²⁷ Nevertheless, the year after the IPCC report, the API published a public report stating that "no conclusive—or even strongly suggestive scientific evidence exists that human activities are significantly affecting sea levels, rainfall, surface temperatures or the intensity and frequency of storms."²⁸ This statement – and others like it by the API and other trade associations funded and led by Defendants, as well as by many of the Defendants themselves – was false and contradicted by their own internal documents, as exemplified above.

Additional examples of the discrepancies between Defendants' and their allies' public statements and their internal knowledge include:

- In 1996, ExxonMobil CEO Lee Raymond represented that "scientific evidence remains inconclusive as to whether human activities affect global climate," and referred to the fact that fossil fuel combustion causes climate change as an

²³ Joseph Carlson, ExxonMobil Internal Memo re: The Greenhouse Effect (1988), <https://www.climatefiles.com/exxonmobil/566/>

²⁴ *Ibid.* at 7–8.

²⁵ Intergovernmental Panel on Climate Change, *Climate Change 1995: the Science of Climate Change*, at 4–5, 35–39 (pub. 1996), https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_sar_wg_I_full_report.pdf.

²⁶ *Ibid.* at 30.

²⁷ *Ibid.* at xi.

²⁸ American Petroleum Institute, *Reinventing Energy: Making the Right Choices*, (1996), <https://www.documentcloud.org/documents/4224133-Reinventing-Energy/>

“unproven theory.”²⁹

- In the late 1990s and early 2000s, Exxon bought a series of paid, editorial-style advertisements—also known as advertorials³⁰—in *The New York Times* that falsely represented “uncertainties” about climate science research. Such statements include, as examples:
 - “We don’t know enough about the factors that affect global warming and the degree to which—if any—that man-made emissions (namely, carbon dioxide) contribute to increases in Earth’s temperature.”³¹
 - “Even after two decades of progress, climatologists are still uncertain how—or even if—the buildup of man-made greenhouse gases is linked to global warming. It could be at least a decade before climate models will be able to link greenhouse warming unambiguously to human actions. Important answers on the science lie ahead.”³² “[I]t is impossible for scientists to attribute the recent small surface temperature increases to human causes.”³³
- In 2001, ExxonMobil stated, “[T]here is no consensus about long-term climate trends and what causes them...during the 1970’s [sic], people were concerned about global cooling.”³⁴

These statements were misleading. By 1988, the IPCC had been established by the UN General Assembly to review the state of the science of climate change because of mounting concern that climate change, caused by CO₂ emissions, was likely to occur.³⁵ By 1992, the United Nations Framework Convention on Climate Change declared that “human activities have been substantially increasing the atmospheric concentrations of greenhouse gases, [and] that these increases enhance the natural greenhouse effect, and that this will result on average in an additional warming.”³⁶ By 1995, the IPCC had concluded that the scientific evidence affirmed that man-made climate change, driven primarily by fossil fuel use and deforestation, was underway and having significant impacts, and the IPCC conclusions were re-affirmed by scientific societies around the

²⁹ Lee Raymond, *Climate change: don’t ignore the facts*, Exxon Corporation (1996),

<https://climateintegrity.org/uploads/deception/1996-Exxon-Global-Warming-Whos-Right.pdf>

³⁰ Supran and Oreskes, “Assessing ExxonMobil’s climate change communications (1977-2014),” *Environ. Res. Lett.* (2017), <https://iopscience.iop.org/article/10.1088/1748-9326/aa815f#fnref-erlaa815fr11>.

³¹ Mobil, *Climate Change: A Prudent Approach*, N.Y. Times (Nov. 13, 1997),

<https://embed.documentcloud.org/documents/705548-mob-nyt-1997-11-13-climateprudentapproach/>.

³² Mobil, *Climate Change: Where We Come Out*, N.Y. Times (Nov. 20, 1997),

<https://embed.documentcloud.org/documents/705549-mob-nyt-1997-11-20-ccwherewecomeout/>.

³³ ExxonMobil, *Unsettled Science* (Mar. 23, 2000), reproduced in

<https://www.theguardian.com/environment/2021/nov/18/the-forgotten-oil-ads-that-told-us-climate-change-was-nothing>.

³⁴ ExxonMobil (2001 Jul. 10), Media Statement – Global Climate Change [Press Release],

https://web.archive.org/web/20041205182937/http://www2.exxonmobil.com/Corporate/Newsroom/Newsreleases/corp_xom_nr_100701_6.asp.

³⁵ Intergovernmental Panel on Climate Change, “History of the IPCC,” <https://www.ipcc.ch/about/history/>.

³⁶ *United Nations Framework Convention on Climate Change* (1992),

https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf

world.³⁷ Moreover, there was no evidence that the IPCC was exaggerating or sensationalizing its findings. On the contrary, a study I undertook in 2013 suggested that if anything the opposite was true: that the IPCC had been conservative in its projections.³⁸ The fossil fuel industry went to extensive lengths to deny the reality of climate change or publicly emphasize the “uncertainties” about climate change, as opposed to what the industry knew to be true. A 2017 study that my colleague Geoffrey Supran and I conducted showed that while 83% of ExxonMobil’s peer-reviewed papers and 80% of internal documents acknowledge that climate change was real and human-caused, only 12% of public-facing advertorials do so.³⁹ This study and the above public statements display the discrepancy between what Defendants knew and were discussing internally among themselves and with their allies, surrogates, and other fossil fuel companies, and what Defendants were saying in public spheres. Based on my research, experience, and review of statements and literature discussed herein, there has been a persistent discrepancy between what the fossil fuel industry and its allies and surrogates has communicated in public-facing statements, and their internal statements about knowledge about climate change.

The gulf between the fossil fuel industry’s internal assessments and corporate behavior and their public statements remains today. The fossil fuel industry, including Defendants, publicly celebrate emissions reductions targets and promote the idea of a transition to clean energy. However, in private or quietly in industry-targeted publications, they question emissions reductions goals, they invest in new fossil fuel production inconsistent with achieving emissions-related goals (such as those in the 2015 international Paris Agreement climate change treaty), and they undermine attempts to reduce emissions by continuing to expand fossil fuel development and production. For example, in 2015, ExxonMobil CEO Rex Tillerson privately spoke to the company’s board about the 2015 Paris Agreement, which seeks to limit global warming to no more than 1.5–2.0 degrees Celsius.⁴⁰ Tillerson said that the Paris Agreement limit was “something magical”—in the sense of being unrealistic and indicating his skepticism about the treaty.⁴¹ Because it would be “very expensive” to meet the Paris target, Tillerson added, “Who’s to say [limiting warming to] 2.5 [degrees of global warming] is not good enough?”⁴² In a 2019 memo sent to the Oil and Gas Climate Initiative (a group of high-level executives from the fossil fuel industry), an ExxonMobil executive requested that the group remove all mention of the Paris Agreement in its documents, to avoid “commit[ting] [OGCI] members to enhanced climate-related

³⁷ Intergovernmental Panel on Climate Change, *Climate Change 1995: the Science of Climate Change*, at 4–5, 35–39 (pub. 1996), https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_sar_wg_I_full_report.pdf.

³⁸ Oreskes et al., “Climate change prediction: Erring on the side of least drama?”, Science Direct (2011), <https://www.sciencedirect.com/science/article/abs/pii/S0959378012001215>.

³⁹ Geoffrey Supran and Naomi Oreskes, “Assessing ExxonMobil’s climate change communications (1977 – 2014)”, *Environ. Res. Lett.* (2017), <https://iopscience.iop.org/article/10.1088/1748-9326/aa815f#fnref-erlaa815fr11>.

⁴⁰ Christopher M. Matthews and Collin Eaton, *Inside Exxon’s Strategy to Downplay Climate Change*, WSJ (Sept. 14, 2023), <https://www.wsj.com/business/energy-oil/exxon-climate-change-documents-e2e9e6af>.

⁴¹ *Ibid.*

⁴² *Ibid.*

governance, strategy, risk management, and performance metrics and targets.”⁴³ In sharp contrast, in public statements, ExxonMobil has promoted its “support” of the Paris Agreement. In a 2021 blogpost on the company’s website, for example, ExxonMobil stated that it “has supported [the Paris Agreement] since its adoption in 2015,” and touted the company’s “2025 emission reduction plans, which are projected to put us on a pathway consistent with the goals of the Paris Agreement.”⁴⁴

Similarly, even though a Shell executive stated privately in March 2020 that “we’re going to get as much out of [oil and gas] for as long as we can,”⁴⁵ Shell has told the public that it is focused on progress toward net-zero, reduced emissions, and renewable energy. For example, in a 2023 Instagram post, the company stated, “At Shell, we are making progress towards net zero.”⁴⁶ Today, Shell advertises on the *Washington Post*’s website that “Shell is a bigger player than you might expect in this budding movement to realize a cleaner and more efficient transportation future.”⁴⁷

There are similar discrepancies between Chevron’s stated commitments to delivering clean energy and supporting net-zero limits, and its continued corporate behavior. For example, in 2023 and 2024, Chevron stated in video advertisements that it was working to “deliver the energy we need today while forging new paths to the future in ways that are affordable, reliable, and ever cleaner.”⁴⁸ Today, Chevron’s website states that they “believe the future of energy is lower carbon,” and that “Chevron is working to advance the global net-zero ambitions of the Paris Agreement.”⁴⁹ Those depictions diverge substantially from Chevron’s actions. Chevron increased its spending on *new* oil and gas projects by 11% in 2024, from \$18.5 billion to \$19.5 billion.⁵⁰ Chevron eliminated its renewable energy division years earlier, in 2014, despite the fact that it was, overall, profitable.⁵¹ Indeed, in 2024, Chevron announced that it was cutting its low carbon

⁴³ House Committee On Oversight and Accountability and Senate Committee on the Budget, *Denial, Disinformation, and Doublespeak: Big Oil’s Evolving Efforts to Avoid Accountability for Climate Change*, Joint Staff Report (2024), https://www.budget.senate.gov/imo/media/doc/fossil_fuel_report1.pdf.

⁴⁴ ExxonMobil, *Reaffirming Our Commitment to the Paris Agreement* (Jan. 20, 2021), <https://corporate.exxonmobil.com/news/viewpoints/commitment-paris-agreement>.

⁴⁵ Malcolm Harris, *Shell is Looking Forward*, NY Mag. (Mar. 3, 2020), <https://nymag.com/intelligencer/2020/03/shell-climate-change.html>.

⁴⁶ Shell, Instagram post (Mar. 17, 2023), Procured from MediaRadar.

⁴⁷ Content from Shell, *The Mobility Quandary*, Wash. Post., <https://www.washingtonpost.com/brand-studio/shell/the-mobility-quandary/> (“Another critical component of a sustainable energy mix in transportation is further investment in natural gas, a cleaner-burning fossil fuel . . .”).

⁴⁸ Chevron, *Affordable, Reliable, and Ever Cleaner* (2023, 2024), Procured from MediaRadar.

⁴⁹ Chevron, *Explore a Lower Carbon Future For All*, <https://www.chevron.com/lower-carbon#manifesto-card>.

⁵⁰ Sabrina Valle, *Chevron Increases Project Spending Budget by 11% for 2024*, Reuters (Dec. 6, 2023), <https://www.reuters.com/business/energy/chevron-forecasts-16-bln-capex-2024-2023-12-06/>.

⁵¹ Sustainable Business, *Chevron Says Goodbye to Renewable Energy* (Jun. 3, 2014), <https://www.sustainablebusiness.com/2014/06/chevron-says-goodbye-to-renewable-energy-52365/>.

spending by 25%,⁵² even as its website still says that it is “working to help create a lower carbon future for all.”⁵³

BP, too, continues to make public statements that diverge from its internal discussions. The congressional investigation from the U.S. House Committee on Oversight and Accountability and the U.S. Senate Budget Committee revealed that internal BP emails, from 2019, showed that BP leadership expressed skepticism about emissions reductions.⁵⁴ One BP executive wrote, “just wanted you to be aware as reducing emissions in half by 2035 sounds pretty out there!”⁵⁵ BP’s website, however, still states that “we believe our net zero ambition and aims, taken together, are consistent with the goals of the Paris Agreement,”⁵⁶ even though reducing emissions in half by 2035 is necessary to meet the Paris Agreement limits.⁵⁷

My research has shown that this misleading divergence between Defendants’ internal discussions and external communication is systematic. For example, in an analysis of ExxonMobil’s 40-year history of climate change communications, my colleague and I analyzed ExxonMobil’s outreach to the public through paid advertising in leading newspapers. We found that there were systematic discrepancies between what the advertorials said about climate change and what the company said in private. In private, in many instances the company expressed understanding and general acceptance of climate science. However, in public they disparaged that science, downplayed its significance, and exaggerated its uncertainties. Conversely, today in public ExxonMobil claims to accept the Paris agreement, but its actions and on-going business model are inconsistent with that claim. Although a substantial portion of my research focused on ExxonMobil, it is my opinion, based on materials I have relied on, my research, and my experience analyzing the fossil fuel industry, that all the significant players in the fossil fuel industry, including Defendants, have at least some discrepancies between their internal knowledge and external communications, whether individually or through third parties.⁵⁸ Indeed, Defendants, while publicly stating that they now accept the findings of climate science, continue to support third parties, such as trade associations, which publicly continue to disparage those findings.

⁵² Kevin Crowley, *Chevron ‘Serious’ About Low Carbon With \$3 Billion Biofuel Deal*, Bloomberg (Feb. 28, 2022), <https://www.bloomberg.com/news/articles/2022-02-28/chevron-serious-about-low-carbon-with-3-billion-biofuel-deal>; see also Kevin Crowley, *Chevron Is Cutting Low-Carbon Spending by 25% Amid Belt Tightening*, Bloomberg (Dec. 6, 2024), <https://www.bloomberg.com/news/articles/2024-12-06/chevron-cutting-low-carbon-spending-by-25-amid-belt-tightening>.

⁵³ Chevron, *Explore a Lower Carbon Future For All*, <https://www.chevron.com/lowercarbon#manifesto-card>.

⁵⁴ House Committee On Oversight and Accountability and Senate Committee on the Budget, *Denial, Disinformation, and Doublespeak: Big Oil’s Evolving Efforts to Avoid Accountability for Climate Change*, Joint Staff Report (2024), https://www.budget.senate.gov/imo/media/doc/fossil_fuel_report1.pdf.

⁵⁵ *Ibid.* at 12.

⁵⁶ BP, *Getting to Net Zero*, <https://www.bp.com/en/global/corporate/sustainability/getting-to-net-zero.html>.

⁵⁷ House Committee On Oversight and Accountability Democrats and Senate Committee on the Budget, *Denial, Disinformation, and Doublespeak: Big Oil’s Evolving Efforts to Avoid Accountability for Climate Change*, Joint Staff Report (2024), https://www.budget.senate.gov/imo/media/doc/fossil_fuel_report1.pdf.

⁵⁸ *A Crack in the Shell: New Documents Expose a Hidden Climate History* (Apr. 2018), Center for International Environmental Law, <https://www.ciel.org/wp-content/uploads/2018/04/A-Crack-in-the-Shell-April-2018.pdf>.

In my expert opinion, the systematic gap between Defendants’ internal discussions and external communications connects their deceptive behavior from at least the 1990s until today.

ii. Third-party involvement

An essential feature of Defendants’ ongoing campaign is their use of third-party “allies” to boost their deception. These allies are other organizations and groups who engaged in public and private deceptive activity around anthropogenic global warming, with whom Defendants collaborate on messaging, helped to fund, or helped to create. Starting in the late 1980s, Defendants heavily engaged with these allies to challenge whether anthropogenic global warming was occurring at all. These relationships continue later, as Defendants’ third-party proxies continue to question anthropogenic global warming as well as promote misinformation about climate solutions.

To this end, starting in the 1980s Defendants funded third-party organizations, including front groups, to promote denial and doubt among consumers and the public about the existence, causes, and effects of climate change. The primary hub for Defendants’ third-party coordination was the API.⁵⁹ In fact, in the same 1965 speech that discussed how continued use of fossil fuel products would cause “marked changes” to the climate by 2000, API President Frank Ikard reiterated how the API would act on behalf of the fossil fuel industry as a whole, stating that “our industry is best understood, and its needs are more readily appreciated, when it can strike a single note. Our industry thrives today because it has identified those areas that could help, or impede, its progress; and when it has responded, it has done so in a clear voice, easily understood.”⁶⁰

The fossil fuel industry did not rely solely on the API to promote doubt and uncertainty about the anthropogenic global warming. Defendants also helped create and/or fund the Global Climate Coalition,⁶¹ the George C. Marshall Institute, the Heartland Institute, the Cato Institute, the Cooler Heads Coalition, the American Enterprise Institute, Americans for Prosperity, the Competitive Enterprise Institute, the Heritage Foundation, Frontiers for Freedom, Committee for a Constructive Tomorrow, Alliance for Climate Strategies, the Alliance for Energy & Economic Growth, the Center for Energy & Economic Development, the International Petroleum Industry Environmental Conservation Association, and others.⁶²

⁵⁹ Neela Banerjee, *Exxon’s Oil Industry Peers Knew About Climate Dangers in the 1970s, Too*, Inside Climate News (Dec. 22, 2015), <https://insideclimatenews.org/news/22122015/exxon-mobil-oil-industry-peers-knew-about-climate-change-dangers-1970s-american-petroleum-institute-api-shell-chevron-texaco/>.

⁶⁰ Frank N. Ikard, *Meeting the Challenges of 1966*, in Proceedings of the Am. Petroleum Inst. (1965) at 13, <https://www.documentcloud.org/documents/5348130-1965-API-Proceedings/>.

⁶¹ Brulle, R. J. (2022). Advocating inaction: a historical analysis of the Global Climate Coalition. *Environmental Politics*, 32(2), 185–206. <https://doi.org/10.1080/09644016.2022.2058815>; Franta, B. (2022). *Big Carbon’s Strategic Response To Global Warming, 1950-2020* (dissertation), <https://purl.stanford.edu/hq437ph9153>.

⁶² Robert Brulle has identified the following front groups and third parties as organizations that Defendants were members of, either directly or through trade associations and other front groups: Alliance for Climate Strategies (including American Petroleum Institute,); Alliance for Energy & Economic Growth (including American Petroleum

Like Defendants, these groups promoted messages challenging whether anthropogenic global warming was occurring. They also downplayed what the risks of such warming would be, as compared with the scientific consensus of climate science experts at the time. For example, in 1998, a Global Climate Science Communications Plan was developed by the API and its members, including executives of Defendants. This plan outlined a multi-million-dollar, multi-year strategy to create public doubt and confusion about climate change.⁶³ The plan involved “[i]dentify[ing], recruit[ing] and train[ing] a team of five independent scientists” to spread Defendants’ narratives, and establishing a purportedly independent scientific think tank in Washington, D.C., with a board of “respected climate scientists,” but Defendants would hire and oversee employees.⁶⁴

As described in their 1998 Plan, Defendants covertly funded and amplified the work of contrarian scientists, including Wei-Hock “Willie” Soon,⁶⁵ Sallie Baliunas,⁶⁶ Frederick Seitz,⁶⁷ and William Happer.⁶⁸ Each of these purported experts has been discredited or at least seriously questioned by the scientific community. Seitz and Happer were physicists with no expertise in climate science; Soon and Baliunas were both astrophysicists. The fossil fuel industry, including Defendants, often retained the right to review these scientists’ research before it was published, and their funding was often undisclosed.⁶⁹

Institute,); American Coalition for Clean Coal Electricity (including BHP Billiton); Americans for Balanced Energy Choices (including BHP Billiton); Center for Energy & Economic Development (including BHP Minerals, Phillips Coal Company); Coalition for American Jobs (including American Petroleum Institute, National Association of Manufacturers, ExxonMobil); Coalition for Vehicle Choice (including funding by Marathon); Cooler Heads Coalition; Citizens for a Sound Economy; The Advancement of Sound Science Coalition; American Legislative Exchange Council; George Marshall Institute, Competitive Enterprise Institute; Global Climate Coalition (including American Petroleum Institute, Amoco, BP, National Association of Manufacturers, Phillips Petroleum, Shell, Texaco, BHP Minerals, Chevron, Exxon, Mobil Corporation, National Petrochemical and Refiners Association, Society of the Plastic Industry); Partnership for Better Energy Future (including American Petroleum Institute, National Association of Manufacturers). Climate and Development Lab, Brown University, November 2018, Countermovement Coalitions: Climate Denialist Organizational Profiles; Cooler Heads Coalition, *Global Warming.org May Cooler Heads Prevail*, <https://climateinvestigations.org/climate-deniers/cooler-heads-coalition/>; DeSmog, *Climate Disinformation Database*, <https://www.desmog.com/climate-disinformation-database/>.

⁶³ *Global Climate Science Communications Team Action Plan*, American Petroleum Institute 4 (Apr. 3, 1998), <http://www.climatefiles.com/trade-group/american-petroleum-institute/1998-global-climate-science-communications-team-action-plan/>

⁶⁴ *Ibid.*

⁶⁵ Gillis, Justin and John Schwartz, “Deeper Ties to Corporate Cash for Doubtful Climate Researcher,” *New York Times* (Feb. 21, 2015), <https://www.nytimes.com/2015/02/22/us/ties-to-corporate-cash-for-climate-change-researcher-Wei-Hock-Soon.html>.

⁶⁶ Revkin, Andrew, “Politics Reasserts Itself in the Debate Over Climate Change and Its Hazards,” *New York Times* (Aug. 5, 2003), <https://www.nytimes.com/2003/08/05/science/politics-reasserts-itself-in-the-debate-over-climate-change-and-its-hazards.html>.

⁶⁷ Monbiot, George, “The denial industry,” *The Guardian* (Sept. 19, 2006), <https://www.theguardian.com/environment/2006/sep/19/ethicalliving.g2>.

⁶⁸ Westervelt, Amy, “How the fossil fuel industry got the media to think climate change was debatable,” *Washington Post* (Jan. 10, 2019), <https://www.washingtonpost.com/outlook/2019/01/10/how-fossil-fuel-industry-got-media-think-climate-change-was-debatable/>.

⁶⁹ Suzanne Goldenberg, “Work of prominent climate change denier was funded by energy industry,” *The Guardian* (Feb. 21, 2015), <https://www.theguardian.com/environment/2015/feb/21/climate-change-denier-willie-soon-funded->

In 1988, the fossil fuel industry, through the International Petroleum Industry Environmental Conservation Association (IPIECA), formed a “Working Group on Global Climate Change.” The Working Group included representatives from Exxon, Mobil, BP, Shell, Texaco (now Chevron), the American Petroleum Institute, and IPIECA.⁷⁰ In 1990, the Working Group distributed strategic documents to IPIECA members, including many or all of Defendants, with the specific aim to undermine and significantly hamper efforts to “shift ... the energy resource mix” away from fossil fuels.⁷¹ The strategy was created during a 1984 meeting of IPIECA. At this meeting, Exxon shared with other industry representatives its concerns about actions to reduce fossil fuel use.⁷² According to the former Environmental Director of French oil and gas company Elf (now Total) Bernard Tramier, this was “because the stakes seemed to have become too great and a collective response from the [fossil fuel] profession [was] required.”⁷³ The 1989 Working Group was formed to publicly emphasize “uncertainties” in climate science and the costs of reducing fossil fuel use, to demand further research on climate change as a delay tactic (similar to the tobacco industry’s filibuster tactics), and to promote false solutions to climate change that would in fact protect and expand fossil fuel sales.⁷⁴

In 1997, a group known as the Oregon Institute of Science and Medicine—an institute with no academic accreditation—worked with Frederick Seitz, at the time the Chairman of the George C. Marshall Institute, to orchestrate a “petition” that claimed to have 17,000 signatories rejecting claims of man-made climate change.⁷⁵ The “petition” included a cover letter from Frederick Seitz, who had previously worked for R.J. Reynolds tobacco, disparaged climate science, and publicly attacked IPCC scientists.⁷⁶ The package that was mailed to recipients also included a counterfeit

energy-industry; Justin Gillis and John Schwartz, “Deeper Ties to Corporate Cash for Doubtful Climate Researcher,” *The New York Times* (Feb. 11, 2015), <https://www.nytimes.com/2015/02/22/us/ties-to-corporate-cash-for-climate-change-researcher-Wei-Hock-Soon.html>; Suzanne Goldenberg, “Greenpeace exposes sceptics hired to cast doubt on climate science,” *The Guardian* (Dec. 8, 2015), <https://www.theguardian.com/environment/2015/dec/08/greenpeace-exposes-sceptics-cast-doubt-climate-science>; Naomi Oreskes and Erik M. Conway, *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming*, Bloomsbury: 2010.

⁷⁰ LeVine, D. (Exxon), chairman, Mal-Shari, A. (Saudi Aramco), Bernstein L. (Mobil), Flannery B. (Exxon), Graham-Bryce I. (Shell), Henderson U.V. (Texaco), Kraweld H. (Shell), McKay J. (BP), Tramier B. (Elf Aquitaine), Yosie, T. (API) and Lemlin J. (IPIECA) (1990), Potentially Enhanced Greenhouse Effect: A Briefing Document for IPIECA Membership Prepared by the Working Group on Global Climate Change, Feb. 1990, as reported in Christophe Bonneuil, Pierre-Louis Choquet, and Benjamin Franta, 2021, Early Warnings and Emerging Accountability: Total’s Responses to Global Warming, 1971--2021, *Global Environmental Change* vol. 71, 102386, <https://doi.org/10.1016/j.gloenvcha.2021.102386>.

⁷¹ D. LeVine, 1989, The Potential Greenhouse Effect: Status \ Projections \ Concerns and Needs for Constructive Approaches, Exxon Corporation, p. 16, as reported in Christophe Bonneuil, Pierre-Louis Choquet, and Benjamin Franta, 2021, Early Warnings and Emerging Accountability: Total’s Responses to Global Warming, 1971--2021, *Global Environmental Change* vol. 71, 102386, <https://doi.org/10.1016/j.gloenvcha.2021.102386>.

⁷² *Ibid.*

⁷³ *Ibid.*

⁷⁴ *Ibid.*

⁷⁵ Kevin Grandia, *The 30,000 Global Warming Petition Is Easily-Debunked Propaganda*, HuffPost (Aug. 22, 2009), https://www.huffpost.com/entry/the-30000-global-warming_b_243092.

⁷⁶ *Ibid.*

“research paper” entitled: *Environmental Effects of Increased Atmospheric Carbon Dioxide*, formatted to make it look like an article from the National Academy of Sciences (NAS).⁷⁷ The NAS objected, stating that “[t]he Petition project was a deliberate attempt to mislead scientists and rally them in an attempt to undermine support for the Kyoto Protocol.”⁷⁸ A petition is not a scientific instrument—it is a political one—and the “petition” was not based on a review of the science of global climate change. Nor were its signers experts in the field of climate science.⁷⁹ Although it and many of the “signatories” were eventually exposed as a sham,⁸⁰ the petition has been repeatedly recirculated to challenge the fact of anthropogenic global warming.

Defendants’ use of third-party groups has been critical to their deception, and on-going.⁸¹ According to a peer-reviewed 2019 study by sociologists Maxwell Boykoff and Justin Farrell, the media presence of these front groups and third-party climate denial organizations was three times *higher* in the period 2007–2016 compared to 1997–2006.⁸²

These same organizations continue to boost deceptive messaging. For example, in 2019—24 years after the IPCC first stated that man-made climate change was underway⁸³—the “CO₂ Coalition,” a successor to the George C. Marshall Institute, held a meeting in collaboration with the Heartland Institute and Committee for a Constructive Tomorrow. The director of the CO₂ Coalition stated: “We are here . . . on false pretenses [sic], wasting our time talking about a nonexistent climate emergency. And it’s hard to understand how much further the shrillness can go, as this started out as global warming, then it was climate change or global weirding, climate crisis, climate emergency . . . what next? . . . I hope sooner or later enough people will recognize the phoniness of this bizarre environmental cult and bring it to an end.”⁸⁴

These third-party organizations simultaneously promote Defendants’ messaging as well. A peer-reviewed study published in 2025 found that fossil fuel interests, including the American Fuel

⁷⁷ *Ibid.*

⁷⁸ *Ibid.*

⁷⁹ Desmog: Clearing the PR Pollution that clouds climate science, *George C. Marshall Institute*, <https://www.desmogblog.com/george-c-marshall-institute>.

⁸⁰ H. Josef Hebert, *Jokers Add Fake Names to Warming Petition*, *Seattle Times* (May 1, 1998) (noting that the petition was signed by fictitious characters and pop stars), <https://archive.seattletimes.com/archive/19980501/2748308/jokers-add-fake-names-to-warming-petition>; Kevin Grandia, *The 30,000 Global Warming Petition Is Easily-Debunked Propaganda*, *HuffPost* (Aug. 22, 2009), https://www.huffpost.com/entry/the-30000-global-warming_b_243092.

⁸¹ R. Brulle: Defendants’ funding and overseeing the Coalition for American Jobs (2010—2013) and Partnership for a Better Energy Future (2014—2017), <https://cssn.org/wp-content/uploads/2022/04/GCC-Paper.pdf>.

⁸² Maxwell Boykoff, Justin Farrell, 2019, *Climate change countermovement organizations and media attention in the United States (Climate Change Denial and Public Relations: Strategic communication and interest groups in climate inaction*, ed. Núria Almiron, Jordi Xifra) (Routledge), p. 126, <https://www.taylorfrancis.com/chapters/oa-edit/10.4324/9781351121798-8/climate-change-countermovement-organizations-media-attention-united-states-maxwell-boykoff-justin-farrell>.

⁸³ Intergovernmental Panel on Climate Change, *Climate Change 1995: the Science of Climate Change*, at 4–5, 35–39 (pub. 1996), https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_sar_wg_I_full_report.pdf.

⁸⁴ *Trump Adviser William Happer Talks Climate Alarmism During COP25 in Madrid*, The Heartland Institute (Dec. 3, 2019), <https://www.youtube.com/watch?v=j8KxVQFoyT0>.

and Petrochemicals Manufacturers, continue today to fund (directly or indirectly) local groups opposing wind power, including by falsely claiming that offshore wind power kills whales, exaggerating the imminence of commercially available nuclear fusion power, and understating emissions from fossil gas.⁸⁵

Defendants' primary hub for the coordination of climate misinformation continues to be the API. As revealed in the April 2024 congressional investigation report, fossil fuel companies including ExxonMobil, Shell, BP, Chevron, Marathon, Phillips66, and Conoco, direct the API's priorities. When ExxonMobil's CEO Darren Woods became chairman of the API's board of directors in 2018, he emailed industry representatives. In the email, he stated that the objective of an upcoming executive committee meeting was to "put together an assessment of [the] API's strengths, opportunities and ideas for potential improvements," including "above and beyond advocacy priorities," based on "an ExxonMobil view."⁸⁶ At that time, the API was producing an advertising campaign called "Power Past Impossible,"⁸⁷ suggesting that oil and natural gas were now "cleaner." Scholars have concluded that the "Power Past Impossible" campaign had indicators of misleading greenwashing.⁸⁸

Defendants have used the same organizations—including the API and the George C. Marshall Institute (now the CO₂ Coalition)—to boost their messaging for decades. In my expert opinion, the repeated distribution through these organizations of public statements challenging anthropogenic global warming and solutions is a key marker of continuity in Defendants' deception campaign.

⁸⁵ Isaac Slevin, William Kattrup, Charlotte Marcil, J. Timmons Roberts, 2025, Beyond dark money: Information subsidies and complex networks of opposition to offshore wind on the U.S. East Coast, *Energy Research & Social Science* 119 103829, <https://www.sciencedirect.com/science/article/abs/pii/S2214629624004201>

⁸⁶ House Committee On Oversight and Accountability and Senate Committee on the Budget, *Denial, Disinformation, and Doublespeak: Big Oil's Evolving Efforts to Avoid Accountability for Climate Change*, Joint Staff Report (2024), https://www.budget.senate.gov/imo/media/doc/fossil_fuel_report1.pdf.at 37. Additional documents showing the relationship between API and Defendants were published by the Senate Committee on the Budget. Senate Committee on the Budget, *New Joint Bicameral Staff Report Reveals Big Oil's Campaign of Climate Denial, Disinformation, and Doublespeak* (April 30, 2024), <https://www.budget.senate.gov/chairman/newsroom/press/new-joint-bicameral-staff-report-reveals-big-oils-campaign-of-climate-denial-disinformation-and-doublespeak/#:~:text=Sheldon%20Whitehouse%2C%20Chairman%20of%20the,investigation%E2%80%94initiated%20by%20House%20Oversight> (including SOC-HCOR-123718; API_00016130; API_00016189; API_00016162; API_00016167; API_00016170; API_00016178; API_00016182; API_00016187; API_00016289; API_00016291; API_00016184; BPA_HCOR_00028668 (RFS); BPA_HCOR_00030447 (API Climate Policy Task Force); BPA_HCOR_00035868 (hearing on fossil fuel subsidies); BPA_HCOR_00039279 (methane); BPA_HCOR_00076532; BPA_HCOR_00076537; BPA_HCOR_00111189; BPA_HCOR_00156229; BPA_HCOR_00222362; BPA_HCOR_00326338).

⁸⁷ Am. Petroleum Inst., *API Launches Power Past Impossible Campaign During Super Bowl Showing Natural Gas and Oil Benefit to Consumers in Everyday Life*, PR Newswire (Feb. 5, 2017, 18:32 ET), <https://www.prnewswire.com/news-releases/api-launches-power-past-impossible-campaign-during-super-bowl-showing-natural-gas-and-oil-benefit-to-consumers-in-everyday-life-300402321.html>.

⁸⁸ Sheehan, K. (2018). This Ain't Your Daddy's Greenwashing: An Assessment of the American Petroleum Institute's Power Past Impossible Campaign. In: Rimmer, M. (eds) *Intellectual Property and Clean Energy*, Springer, Singapore. https://doi.org/10.1007/978-981-13-2155-9_11.

iii. Downplaying climate change

The fossil fuel industry, including Defendants, have employed rhetoric that aims to minimize public concern about climate change. This is another prominent thread throughout their singular, ongoing campaign of deception.

In addition to the examples provided in Sections 3.B.i and 3.B.ii, above, Defendants and their third-party allies directly challenged the existence of climate change and its likely effects beginning in the 1980s, even though they knew that there was already a scientific consensus that climate change would happen and be consequential, and had internally admitted that.

- In 1990, the Working Group of IPIECA (of which Defendants and the API were members) sent a strategy memo that was created by Exxon's manager for science and strategy development, Duane LeVine, to hundreds of oil companies around the world, including Defendants. This strategy memo concluded that to forestall a global shift away from burning fossil fuels for energy, the industry should emphasize uncertainties in climate science and the need for further research.⁸⁹
- In 1993, Exxon ran an advertorial in the *New York Times* that stated, "[T]he media hype proclaiming that the sky was falling [due to global warming] did not properly portray the consensus of the scientific community. . . [W]hat's wrong with so much of the global warming rhetoric [is] [t]he lack of scientific data...All of which would seem to suggest that the jury's still out on whether drastic steps to curb CO2 emissions are needed."⁹⁰
- In a 1996 advertisement, Exxon stated, "The greenhouse effect is a natural phenomenon....Naturally occurring greenhouse gases...account for 95 to 97 percent of the current effect. The other 3 to 5 percent is attributable to man's activities... Moreover, greenhouse-gas emissions, which have a warming effect, are offset by another combustion product—particulates—which leads to cooling....The concentration of greenhouse gases is building up slowly...and that gives us time to implement effective mitigation measures."⁹¹
- In a 2005 interview of Exxon's Lee Raymond with Charlie Rose, Exxon blamed natural variability "that has nothing to do with man" as the cause of global warming.⁹²

⁸⁹ Benjamin A. Franta, *Big Carbon's Strategic Response to Global Warming, 1950-2020*, at 140 (2022) (Ph. D. Dissertation, Stanford University), <https://purl.stanford.edu/hq437ph9153>.

⁹⁰ Mobil, *Apocalypse No*, N.Y. Times, A19 (February 25, 1993), <https://www.documentcloud.org/documents/357243-1993-2-25-mob-nyt-apocalypse-no/>.

⁹¹ Geoffrey Supran and Naomi Oreskes, "Assessing ExxonMobil's climate change communications (1977-2014): Supplementary Information," https://content.cld.iop.org/journals/1748-9326/12/8/084019/revision3/ERL_12_8_084019_suppdata.pdf?Expires=1746595085&Signature=JplX9u3PqJOO-I3x8itUBGo9UxTkq1yrTz53YITW4lhN7lynXP-OM2iQEYBde6aCg6ofA9j7hHEK3fYF77YpafJvZEBLqPonS-swhmZA61y7gHq0OPD~sNVs5q2FTxZ0YBfc2c8kqAWHi4Nyiqr2Wah-gEZhmW3McarThHtsFO20jo4dF4hqLsHZZ9M1ehqo7QgbGq-r-S9bXo7f3cC2zdt1Byqmo3vto~dsi-S9xQyB9hG9Q67oM2y46kWUUKtoYK1YBqy2smDDVvdqSm7Dt2yy5WNUcMYxBFv9W4zKBNRWNGIlygzgk-ah38hs7ggE2kDuPmEpjmU686cfmwIqygA__&Key-Pair-Id=KL1D8TIY3N7T8.

⁹² The Power of Big Oil, *PBS*, Public Broadcasting Service, 19, Apr. 2022, <https://www.pbs.org/wgbh/frontline/documentary/the-power-of-big-oil/transcript/>

- Shell continued to downplay the seriousness of climate change into 2018, portraying the problem as essentially solved, with the company’s Chief Climate Change Advisory David Hone writing on Shell’s website, “Has climate change run its course? ... the potential extent of change in the climate itself could now be limited. In other words, the prospect of runaway climate change might have passed.”⁹³

These statements are misleading for several reasons. In 1979, the U.S National Academy of Sciences had stated that there was a scientific consensus that climate change, from burning fossil fuels and deforestation would occur.⁹⁴ That same report stressed that although there were uncertainties, none of them undermined that central conclusion. The Academy also stressed that the issue was time-sensitive, that delay could be very costly, and that a “wait-and-see policy may mean waiting until it is too late.”⁹⁵ These conclusions were repeatedly re-affirmed in the period between 1979 and 2023 by the various reports of the IPCC, additional reports of the NAS, and statements and reports of other scientific societies and academies around the globe. Furthermore, there is no scientific evidence whatsoever that the “prospect of runaway climate change might have passed.” On the contrary, scientists continued to be deeply concerned about dangerous “tipping points,” which are defined as “critical threshold[s] beyond which a system reorganizes, often abruptly and/or irreversibly.”⁹⁶

In recent years, Defendants have sought to convince the public that the problem is being solved, including through their own efforts. Representative examples of this type of deception are below:

- A 2016 advertisement issued by the API stated that “America’s oil refineries and natural gas plants are doing their part. Producing cleaner fuels for cleaner air, and helping America’s cars and trucks product 99% fewer emissions since the 1970s.”⁹⁷
- In 2019, the API issued an advertisement that said, “There are challenges ahead, but we’re the problemsolvers working with researchers, innovators, small businesses and manufacturers. America’s natural gas and oil companies are successfully meeting the demand for greater energy leading the world and cutting greenhouse gas emissions to their lowest levels in a generation. We’ve made progress, but we’re not done. Together. We’re on it.”⁹⁸
- In 2021, the API ran an advertisement stating. “Tackling climate change and providing energy isn’t an either/or, we have to do both. America’s natural gas and oil companies have helped the US become the world leader in reducing emissions

⁹³ David Hone, June 14, 2018, Has climate change run its course?., *Shell Climate Change blog*, <https://blogs.shell.com/2018/06/14/has-climate-change-run-its-course/>.

⁹⁴ Jule G. Charney, “Carbon Dioxide and Climate: A Scientific Assessment,” National Academy of Sciences, July 23, 1979. https://geosci.uchicago.edu/~archer/warming_papers/charney.1979.report.pdf.

⁹⁵ *Id.* at vii.

⁹⁶ Options for Expert Meetings and Workshops for the Seventh Assessment Cycle: Expert Meeting on High Impacts and Tipping Points, Intergovernmental Panel on Climate Change, *IPCC*, August 2, 2024, <https://apps.ipcc.ch/eventmanager/documents/87/050720240429-Doc.%207,%20Add.%201%20-%20Expert%20Meeting%20Tipping%20Points.pdf>.

⁹⁷ API, Energy Update (2016). Procured from MediaRadar.

⁹⁸ API, We’re On It (2019). Procured from MediaRadar.

all while keeping the lights on across the country. We've already made progress together.”⁹⁹

- In a 2021 advertisement, Chevron said, “To make progress, we must keep taking steps forward. We believe the future of energy is lower-carbon, and to get there, the world needs to reduce global emissions. At Chevron, we're taking action, tying our executives' pay to lowering the carbon emissions of our operations. It's tempting to see how far we've come. But it's only human to know how far we have to go.”¹⁰⁰

These statements are misleading for several reasons. These include (1) they downplay the central role of fossil fuels in driving climate change and disruption; (2) they falsely represent the industry as taking major steps towards reducing fossil fuel use; (3) they ignore the scientific concept of a “carbon budget”—the idea that society has but a limited amount of carbon left to burn before highly dangerous and potentially irreversible changes occur;¹⁰¹ (4) they ignore the time-sensitivity of the need to reduce emissions;¹⁰² and (5) they misleadingly focus on operational emissions, while ignoring the much greater consequence and harms that arise from using their products as intended. Indeed, claims such “as cutting greenhouse gas emissions to their lowest levels in a generation” misleadingly blur the distinction between operational and product use emissions. Even if all operational emissions were reduced to zero, the world would still face dangerous climate change unless the use of oil and gas were reduced to near (or net) zero as well.

Based on my experience, research, and review of these materials, the above examples illustrate the industry pattern of deception and misleading statements for at least the following reasons: (1) Defendants themselves portray to the public that climate change is not or is no longer a concern (e.g., Exxon's advertorials and Shell's 2018 statement). This is flatly contradicted by the conclusions of the scientific community, who have repeatedly stated that climate change is becoming a more severe concern, impacts are rapidly accelerating, and time is running out to prevent those impacts.¹⁰³ (2) Defendants themselves, directly and through their ally, the API, convey that the problem of climate change requires the fossil fuel industry to play a leading role, that the fossil fuel companies are in fact playing that role, in large part by substantially reducing global emissions. At best, these statements are half-truths when compared to the fossil fuel companies, including Defendants', actions and other statements. (3) These statements also still do not state that Defendants' fossil fuel products substantially cause the emissions and climate change problems that they are allegedly “doing their part” to help solve. Grossly exaggerating their role in cutting emissions and solving the climate problem is a deceptive tactic that represents a continuation of their decades-long and ongoing efforts to mislead.

⁹⁹ API, Energy For Progress (2021). Procured from MediaRadar.

¹⁰⁰ Chevron, Making the World Cleaner (2021). Procured from MediaRadar.

¹⁰¹ Sophie Berger, Sarah L. Connors, Frequently Asked Questions, Intergovernmental Panel on Climate Change, *IPCC*, https://www.ipcc.ch/report/ar6/wg1/downloads/faqs/IPCC_AR6_WGI_FAQ_Chapter_05.pdf, see esp. p 34

¹⁰² Intergovernmental Panel on Climate Change, “The evidence is clear: the time for action is now. We can halve emissions by 2030.” *IPCC*, April 4, 2022, <https://www.ipcc.ch/2022/04/04/ipcc-ar6-wgiii-pressrelease/>.

¹⁰³ 1. Intergovernmental Panel on Climate Change (IPCC). Weather and Climate Extreme Events in a Changing Climate. In: *Climate Change 2021 – The Physical Science Basis: Working Group I Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press; 2023:1513-1766, <https://www.ipcc.ch/sr15/>; <https://centaur.reading.ac.uk/101846/>; <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2019EF001189>

iv. Disparaging science

Throughout their campaign, the fossil fuel industry, including Defendants, have promoted uncertainty about various aspects of climate science. As former Assistant Secretary of Labor for Occupational Safety and Health David Michaels explains in his book, *Triumph of Doubt*, a responsible corporation would use scientific evidence to assess risk objectively, and then alter its products or adjust its practices as that evidence indicates may be appropriate.¹⁰⁴ Sadly, this is not what many corporations do. Instead, many corporations view scientific information as a threat, and work to “manage” that information—to make it seem less certain or less damaging than it is—or to try to deny and discredit it entirely.

The fossil fuel industry has deployed these tactics.¹⁰⁵ First, they challenged the science about the existence of climate change, its risks and harms. For example:

- In 1988, Exxon’s “The Greenhouse Effect” memorandum emphasized that the public-facing “Exxon Position” on the internally recognized risks and causes of global warming should “emphasize the uncertainty” of the science (rather than its central findings).¹⁰⁶
- In 1989, the IPIECA Working Group on Global Climate Change (chaired by Exxon’s Duane LeVine) sent strategy materials on climate change to the hundreds of fossil fuel companies who were members of IPIECA, including Defendants. These documents included a strategy created by LeVine, which warned that the international community would soon seek to control fossil fuels the way it had recently done with ozone-depleting chemicals, and they outlined a coordinated industry plan to ensure such an effort would fail. To defeat public policies that could “shift . . . the energy resource mix” away from fossil fuels or “even [require] abandoning resources,” LeVine explained that the industry should highlight uncertainties in climate science and the costs of fossil fuel controls, call for further research, and promote industry-friendly alternative policies that would keep the fossil fuel business intact.¹⁰⁷
- In 1996, the API published an extensive report that denied the human connection to climate change by falsely stating that “no conclusive—or even strongly suggestive—scientific evidence exists that human activities are significantly affecting sea levels,

¹⁰⁴ David Michaels, *The Triumph of Doubt: Dark Money and the Science of Deception* (New York, New York: Oxford University Press, 2020), 3-4.

¹⁰⁵ Geoffrey Supran and Naomi Oreskes, “Assessing ExxonMobil’s climate change communications (1977-2014),” *Environ. Res. Lett.* (2017), <https://iopscience.iop.org/article/10.1088/1748-9326/aa815f#fnref-erlaa815fr11>; Geoffrey Supran and Naomi Oreskes, “Addendum to ‘Assessing ExxonMobil’s climate change communications (1977-2014)’” 2020 *Environ. Res. Lett.* 15 119401, <https://iopscience.iop.org/article/10.1088/1748-9326/ab89d5>;

¹⁰⁶ Joseph Carlson, ExxonMobil Internal Memo re: The Greenhouse Effect (1988), <https://www.climatefiles.com/exxonmobil/566/>

¹⁰⁷ D. Levine, 1989, The Potential Greenhouse Effect: Status \ Projections \ Concerns and Needs for Constructive Approaches, Exxon Corporation, <https://www.climatefiles.com/exxonmobil/1989-presentation-exxon-board-directors-greenhouse-gas-effects/>.

- rainfall, surface temperatures or the intensity and frequency of storms.”¹⁰⁸
- In 1997 Exxon ran an advertisement that stated, “[T]here is no consensus on what constitutes ‘dangerous levels’ of [greenhouse gas] emissions, nor is there agreement on when, where and how best to reduce their impact . . . [O]ther variables could be much more important in the climate system than emissions produced by man.”¹⁰⁹
 - In 1997, William O’Keefe, chairman of the Global Climate Coalition and executive vice president of the API, falsely wrote in a *Washington Post* op-ed, “[c]limate scientists don’t say that burning oil, gas, and coal is steadily warming the earth.”¹¹⁰
 - A 2001 ExxonMobil press release said of the “Hockey Stick” graph showing anthropogenic global warming, “The error bars are huge, yet some prefer to ignore them.”¹¹¹
 - In a 2005 Lee Raymond television interview, he stated, “There is a natural variability that has nothing to do with man...[T]he science is not there to make that determination [as to whether global warming is human-caused]...[T]here are a lot of other scientists that do not agree with [the National Academy and IPCC]...[T]he data is not compelling.”¹¹²
 - In 2006, Exxon claimed, “Climate science is complex...the extent to which recent temperature changes can be attributed to greenhouse gas increases remains uncertain.”¹¹³
 - In 2007, ExxonMobil Corp’s website stated that “[G]aps in the scientific basis for theoretical climate models and the interplay of significant natural variability make it very difficult to determine objectively the extent to which recent climate changes might be the result of human actions.”

¹⁰⁸ Sally Gentile et al., *Reinventing Energy: Making the Right Choices*, Am. Petroleum Inst., at 63 (1996), <https://www.documentcloud.org/documents/4224133-Reinventing-Energy/>.

¹⁰⁹ Geoffrey Supran and Naomi Oreskes, “Assessing ExxonMobil’s climate change communications (1977-2014): Supplementary Information,” https://content.cld.iop.org/journals/1748-9326/12/8/084019/revision3/ERL_12_8_084019_suppdata.pdf?Expires=1746595085&Signature=JplX9u3PqJOO-I3x8itUBGo9UxTkq1yrTz53YITW4lhN7lynXP-OM2iQEYBde6aCg6ofA9j7hHEK3fYF77YpafJvZEBLqPonS-swhmZA61y7gHq0OPD~sNVs5q2FTxZ0YBfc2c8kqAWHi4Nyiqr2Wah-gEZhmW3McarThHtsFO20jo4dF4hqLsHZZ9M1ehqo7QgbGq-r-S9bXo7f3cC2zdt1Byqmo3vto~dsi-S9xQyB9hG9Q67oM2y46kWUktoYK1YBqy2smDDVVdqSm7Dt2yy5WNUcMYxBFv9W4zKBNRWNGIygzgk ah38hs7ggE2kDuPmEpjmU686cfmwIqygA__&Key-Pair-Id=KL1D8TIY3N7T8.

¹¹⁰ William O’Keefe, *A Climate Policy*, The Wash. Post (July 4, 1997, 8:00 p.m. EDT), <https://www.washingtonpost.com/archive/opinions/1997/07/05/a-climate-policy/6a11899a-c020-4d59-a185-b0e7eebf19cc/>.

¹¹¹ ExxonMobil, Internal Memo re: Global Climate Change Campaign, at 7 (April 2001), <https://web.archive.org/web/20050525142433/http://www2.exxonmobil.com/files/corporate/climatetalkingpoints.pdf>.

¹¹² The Power of Big Oil, *PBS*, Public Broadcasting Service, 19, Apr. 2022, <https://www.pbs.org/wgbh/frontline/documentary/the-power-of-big-oil/transcript/>

¹¹³ ExxonMobil 2007 Climate Science Web version of 2005 Corporate Citizenship Report (Archived 16 February 2007), https://web.archive.org/web/20070216020446/https://www.exxonmobil.com/corporate/citizenship/ccr5/climate_science.asp.

- In 2008, Exxon’s Gene Tunison encouraged the company to assist the API to write an article emphasizing uncertainty in climate science.¹¹⁴

These statements were misleading for various reasons, including but not limited to: (1) the IPCC (and other scientific groups) has always acknowledged scientific uncertainties, but also stressed that these uncertainties did not undermine their central findings; (2) already by 1995, the IPCC had concluded that man-made climate change was underway and having measurable impacts; (3) the IPCC had already by 1995 concluded that other variables were not more important than carbon dioxide emissions; (4) the IPCC and other groups had noted that, since approximately 1980, and despite short-term and local ups and downs, there had been a steady planetary warming, driven by carbon dioxide emissions and land use changes; (5) the IPCC had shown (in its Third Assessment Report)¹¹⁵ that the error bars on the “hockey stick” curve were large, but not so large as to obviate its central claim that man-made warming had now exceeded natural variability; and (6) that the science was sufficient to make the determination that human-caused climate change was underway, and to distinguish the effects of human activities from natural variability.

In a 2021 study, my colleague Geoffrey Supran and I reviewed ExxonMobil’s paid advertisements, or “advertorials.” We found that the earlier advertorials disproportionately contested climate science “head-on,” including discussions of CO₂ emissions and the global warming effect.¹¹⁶

More recently and continuing to the present, they have challenged the science about the timeline for reducing emissions and implementing climate solutions, and whether new technologies are sufficient to address climate change.

- In 2010, Exxon’s Rex Tillerson stated, “[W]e acknowledge that [human-caused greenhouse gases] is a contributing factor [to a changing climate]...[But] being a science and engineering company, we understand the science, we understand the difficulties of modeling the science. And there are a number of very complicated models that have been developed by people who are studying the issue around the world . . . And as we look at the competency of those models, there is not a model available today that is competent, and I think all of those people who run those models would acknowledge that.”¹¹⁷
- In 2012, Rex Tillerson also said, “[T]he competencies of the [climate] models are not particularly good . . . [O]ur ability to predict, with any accuracy, what the

¹¹⁴ Matthews, Christopher and Collin Eaton, “Inside Exxon’s Strategy to Downplay Climate Change,” *The Wall Street Journal* (Sept. 14, 2023), <https://www.wsj.com/business/energy-oil/exxon-climate-change-documents-e2e9e6af>.

¹¹⁵ IPCC, *TAR Climate Change 2001: The Scientific Basis*, <https://www.ipcc.ch/report/ar3/wg1/>.

¹¹⁶ Geoffrey Supran, Naomi Oreskes, Rhetoric and frame analysis of ExxonMobil’s climate change communications, *One Earth*, Volume 4, Issue 5, 2021, Pages 696-719, ISSN 2590-3322, <https://doi.org/10.1016/j.oneear.2021.04.014>.

¹¹⁷ Testimony of Rex Tillerson to the U.S. House of Representatives Subcommittee on Energy and Environment (Jan. 20, 2010), <https://www.gpo.gov/fdsys/pkg/CHRG-111hhrg76003/pdf/CHRG-111hhrg76003.pdf>.

future's going to be is really pretty limited . . . I am not disputing that increasing CO2 emissions in the atmosphere is going to have an impact. It will have a warming impact. The—how large it is is [sic] what is very hard for anyone to predict.”¹¹⁸

- Exxon stated in 2015, “We do not really know what the climate effects of 600 ppm versus 450 ppm will be because the models simply are not that good.”¹¹⁹
- In 2018, ExxonMobil continued to stress uncertainty about climate change by saying the “current scientific understanding provides limited guidance on the likelihood, magnitude, or time frame of these events.”¹²⁰
- In my 2021 study with Geoffrey Supran, we also found that “ExxonMobil Corp advertorials emphasized the need for more climate and energy technologies research, such as the company’s sponsorship of the GCEP (Global Climate and Energy Project) at Stanford University. Current solar and wind technologies were presented as inadequate.”¹²¹

Based on my research and expertise, these statements are deceptive. In particular, Exxon itself had relied on climate modelling in the late 1970s and ‘80s (see Section 3A above). Moreover, the IPCC and other scientific groups had made clear that greenhouse gases from burning fossil fuels were not just a “contributing factor” to global warming, but the primary driver of it.

Defendants’ decades-old approach to challenging climate science that they internally understood as broadly accepted by scientific experts, while publicly conveying doubt about that same science and highlighting and exaggerating certainties, is an ongoing feature of their campaign.

v. Lack of appropriate disclosures

Another persistent feature of Defendants’ deception campaign is their failure to appropriately acknowledge that their fossil fuel products cause climate change. For example, in our 2017 study, my colleague and I found that ExxonMobil bought advertising space in *The New York Times* for decades.¹²² We found that the company published an advertorial in the newspaper every Thursday between 1972 and 2000, and published many in the following years. Yet only two

¹¹⁸ Counsel on Foreign Relations CEO Speaker Series: A Conversation with Rex Tillerson (June 27, 2012), <https://www.cfr.org/event/ceo-speaker-series-conversation-rex-w-tillerson>.

¹¹⁹ Geoffrey Supran, Naomi Oreskes, and Stefan Rahmstorf, “Assessing ExxonMobil’s global warming projections,” *Science* (2023), <https://www.science.org/doi/10.1126/science.abk0063>.

¹²⁰ Union of Concerned Scientists, *The 2018 Climate Accountability Scorecard: Insufficient Progress from Major Fossil Fuel Companies*, 7 (2018), <https://www.ucsusa.org/sites/default/files/attach/2018/10/gw-accountability-scorecard18-report.pdf> [<https://perma.cc/R2DA-JW5J>]

¹²¹ Geoffrey Supran, Naomi Oreskes, Rhetoric and frame analysis of ExxonMobil’s climate change communications, *One Earth*, Volume 4, Issue 5, 2021, Pages 696-719, ISSN 2590-3322, <https://doi.org/10.1016/j.oneear.2021.04.014>

¹²² Geoffrey Supran, Naomi Oreskes, Assessing ExxonMobil’s climate change communications (1977–2014), *Environ. Res. Lett.* 12 (2017) 084019, <https://iopscience.iop.org/article/10.1088/1748-9326/aa815f#fnref-erlaa815fr11>

out of these decades-worth of advertorials from ExxonMobil expressed any form of explicit acknowledgement that climate change is real and human-caused.¹²³ Of those two, one “[did] so only indirectly,” by quoting a statement from the intergovernmental organization known as the Group of Eight, or G8, and that 2005 statement does not mention that climate change is caused primarily by Defendants’ products. *Id.* Based on my research to date, my experience, and my present knowledge, the fossil fuel industry, including Defendants, have never appropriately disclosed to consumers or the public the climate harms of their products or their knowledge of those harms. In my opinion, continuing to push for the purchase of fossil fuel products without appropriately disclosing that Defendants know of the harms of their products is a consistent deceptive feature of Defendants’ decades-long campaign to mislead.

vi. Concern that climate concerns would impact future demand for fossil fuels and therefore impact their businesses

The fossil fuel industry is one of the most profitable industries in the history of humanity, and has engaged in deceptive activities to protect their business interests. Defendants have acknowledged this internally throughout their deception campaign.

- In 1980, an ExxonMobil memo acknowledged that “future public decisions aimed at controlling the build-up of atmospheric CO₂ could impose limits on fossil fuel combustion.”¹²⁴
- In 1988, the Exxon Position documents stated that acknowledging the “greenhouse effect...could lead to noneconomic development of non-fossil fuel resources.”¹²⁵
- In 1988, ExxonMobil’s Sprow memo states that the company needed to “protect the value of our resources (oil, gas, coal)” and “preserve Exxon’s business options” in the face of climate change.¹²⁶
- In 1989, the IPIECA Working Group on Global Climate Change (chaired by Exxon’s Duane LeVine) warned that recognizing climate change could “shift . . . the energy resource mix” away from fossil fuels or “even [require] abandoning resources.” LeVine explained that due to this business risks, the industry should emphasize uncertainties in climate science and the costs of fossil fuel controls, call for further research, and promote industry-friendly alternative policies that would keep the fossil

¹²³ Geoffrey Supran and Naomi Oreskes, “Assessing ExxonMobil’s climate change communications (1977-2014),” *Environ. Res. Lett.* (2017), <https://iopscience.iop.org/article/10.1088/1748-9326/aa815f#fnref-erlaa815fr1>.

¹²⁴ 1980 Internal Exxon Memorandum: CO₂ Greenhouse Communications Plan, <https://www.climatefiles.com/exxonmobil/1980-internal-exxon-memorandum-co2-greenhouse-communications-plan/>.

¹²⁵ Joseph Carlson, ExxonMobil Internal Memo re: The Greenhouse Effect (1988), <https://www.climatefiles.com/exxonmobil/566/>.

¹²⁶ *Ibid.*

fuel business intact.¹²⁷

- In 1995, Shell noted that “Climate change ... could have major business implications for the fossil fuel industry.”¹²⁸
- In 1998, the API distributed a memo to its members noting that “Climate is at the center of the industry’s business interests,” and thus the “API’s highest priority issue and defined as ‘strategic.’” The memo stressed many of the strategies that Defendants individually and collectively utilized to combat the perception of their fossil fuel products as hazardous, including influencing the tenor of the climate change “debate” to stave off measures to limit greenhouse gas emissions.¹²⁹

Today, the fossil fuel industry, including Defendants, continue to emphasize the prioritization of their fossil fuel products and business above all else. As revealed in the April 2024 congressional investigation report, a 2017 BP email stated that “promoting and protecting the role of gas as an increasing part of our energy mix is a paramount priority. We need to be ready to speak to this wherever there is a credible effort to dis-incentivize gas.”¹³⁰ Similarly, a March 2018 “upstream communication plan framework” for BP states the goal of its corporate communications was to “protect the role of gas - and BP - in the energy transition.”¹³¹ Separately, in a secretly recorded video from 2021, an Exxon executive admitted: “Did we aggressively fight against some of the science? Yes. Did we join some of these shadow groups to work against some of the early efforts? Yes, that’s true. There’s nothing illegal about that. We were looking out for our investments. We were looking out for our shareholders.”¹³² These examples show the fossil fuel industry’s focus on their profits at the expense of truthful communication with consumers and the public.

B. Defendants’ Deceptive Behavior Continues Today

Defendants’ deceptive messaging has not stopped. To this day, there is a discrepancy between their external communications and internal messaging. Although Defendants today implicitly acknowledge climate change, they do not address that their fossil fuel products are its leading driver, they overstate the fossil fuel industry’s commitment to a cleaner energy future and

¹²⁷ D. Levine, 1989, The Potential Greenhouse Effect: Status \ Projections \ Concerns and Needs for Constructive Approaches, Exxon Corporation; <https://www.climatefiles.com/exxonmobil/1989-presentation-exxon-board-directors-greenhouse-gas-effects/>.

¹²⁸ Shell Management Brief, *Climate Change* (1995) <https://www.documentcloud.org/documents/4411100-Document12/#document/p2/a411448>.

¹²⁹ Joe Walker, *E-mail to Global Climate Science Team, attaching the Draft Global Science Communications Plan* (1998), <https://assets.documentcloud.org/documents/784572/api-global-climate-science-communications-plan.pdf>.

¹³⁰ House Committee On Oversight and Accountability and Senate Committee on the Budget, *Denial, Disinformation, and Doublespeak: Big Oil’s Evolving Efforts to Avoid Accountability for Climate Change*, Joint Staff Report (2024), https://www.budget.senate.gov/imo/media/doc/fossil_fuel_report1.pdf (referencing BPA_HCOR_00072717).

¹³¹ *Ibid.* (referencing BPA_HCOR_00306762).

¹³² Jeff Brady, *Exxon Lobbyist Caught on Video Talking About Undermining Biden’s Climate Push*, NPR (July 1, 2021, 11:37 AM ET), <https://www.npr.org/2021/07/01/1012138741/exxon-lobbyist-caught-on-video-talks-about-undermining-bidens-climate-push>.

their “achievements” in making genuine progress toward limiting climate change, and they fail to convey the truth about their limited investments in and progress towards renewable energy. This was discussed above in relation to the types of deceptive behavior exhibited by Defendants. I describe some further examples here.

In the late 2010s and early 2020s, the API produced a set of short video advertisements that touted the role of the oil and gas industry in driving emissions reductions. These videos claimed that the oil and gas industry were “problem solvers,” and that industry was “doing their part” to address climate change. They also claimed that the oil and gas industry was making America a global leader in reducing emissions, by “cutting greenhouse gas emissions” to “their lowest levels in a generation” and “lower[ing] emissions worldwide.” These claims were misleading, as global emissions from burning oil and gas continued to increase throughout the 2010s, driving further climate change, and because, as I discuss above, the oil and gas industry has been intensely resistant to reducing emissions meaningfully or addressing climate change in any other way.

A Chevron video from 2021 boasted that they were tying executive pay to lowered “carbon emissions intensity.”¹³³ Chevron also touted its efforts to lower carbon intensity on Twitter.¹³⁴ Carbon intensity refers to a form of energy inefficiency—the emissions produced per unit of economic product or activity—so decreased carbon intensity simply means that you have *slowed the rate of emissions growth* relative to what it would have otherwise been. In the absence of actual emission reduction, it does not reduce, much less resolve, the climate change problem.

Another Chevron ad, from 2024, claimed that they were supplying the world with energy that was “affordable, reliable, and ever cleaner.” This was misleading because from a climate perspective, oil and gas are not clean. It also warned that addressing the energy challenge “will take more than a little time.”¹³⁵ This was misleading because it seems to counsel patience, when the scientific community has made clear that time is running out to avoid a climate crisis. Another 2024 ad stated that Chevron was working to meet increasing energy demand, in part by “responsibly increasing our US oil and gas production, like at our Gulf of Mexico facilities,” which had some of the world’s “lowest carbon intensity.”¹³⁶ This was misleading because as the IPCC, the IEA, and other groups have repeatedly noted, increasing oil and gas production is not “responsible,” and because even in the face of improved carbon intensity, increased oil and gas production increases emissions.

A set of recent BP ads touted BP as playing a major role in cutting emissions and therefore in addressing climate change. One 2020 ad, for example, addressed the challenge of “how to get to net zero emissions.” BP was playing its part, it suggested, by being a “sponsor of CNN’s The

¹³³ Chevron, *How far they have to go*, 2021, Procured from MediaRadar.

¹³⁴ Chevron, Tweet, 2021, Procured from MediaRadar.

¹³⁵ Chevron, *Affordable, Reliable, and Ever Cleaner*, 2024, Procured from MediaRadar.

¹³⁶ Chevron, *Meeting Demand*, 2024, Procured from MediaRadar.

Global Energy Challenge.”¹³⁷ Another 2020 video ad claimed that BP was “working every day to make energy that is cleaner and better.”¹³⁸ Another 2021 ad, featuring a dorky-looking “Professor Albert” and an unnamed woman who explained the professor’s claims in plain language, stated that “natural gas is cleaner than other fossil fuels,” and stressed that BP was working to reduce methane emissions.¹³⁹

These claims were misleading for several reasons. These include (1) because in the context of climate change, natural gas is not a ‘clean’ fuel. It is methane (CH₄), a more potent greenhouse gas than CO₂. Moreover, increased natural gas production and use increases methane emissions from well-heads and pipeline and other leaks, which exacerbates climate change; 2) the ads suggested that BP’s efforts had led to real progress in cutting global emissions, but during the late 2010s and early 2020s, global emissions of both CO₂ and CH₄ continued to rise and the planetary temperature rose accordingly; 3) while many countries have set net-zero targets, only eight countries have achieved net zero—Bhutan, the Comoros, Gabon, Guyana, Madagascar, Niue, Panama, and Suriname—all poor countries that began with very low CO₂ emissions levels;¹⁴⁰ and 4) because it is entirely unclear what impact if any the CNN Global Energy Challenge—a television series—may have had, or not had, in reducing greenhouse gas emissions.

BP also ran a 2019 Twitter campaign to popularize the idea of reducing your own carbon footprint. By focusing on the idea of a “personal” carbon footprint¹⁴¹, BP distracted attention from its central role in supplying the fossil fuels that make up the bulk of any consumer’s carbon footprint.

Conoco-Phillips has also produced recent misleading advertisements. One 2018 ad touted the use of detergents in their gasoline to make car engines run more efficiently and produce fewer emissions.¹⁴² Like reducing carbon intensity, reducing automobile emissions per gallon of gas burned slows the *rate of emissions growth relative* to what it would have otherwise been, but absent reductions in gasoline use, it does not reduce, much less resolve, the climate change problem. Other ads touted the company’s development of renewable biodiesel, in 2024¹⁴³, or claimed in 2023 that Conoco-Phillips was “focused on our role in the energy transition.”¹⁴⁴ In fact, ConocoPhillips does not currently report any major renewable power generation. Moreover, a recent review of their strategy concluded that:

¹³⁷ BP, *Global Energy Challenge*, 2020, Procured from MediaRadar.

¹³⁸ BP, *Possibilities Everywhere*, 2020, Procured from MediaRadar.

¹³⁹ BP, *Reducing Methane Emissions*, 2021, Procured from MediaRadar.

¹⁴⁰ Josh Jackman and Tamara Birch, *The world’s race to net zero*: (2024),

<https://www.theecoexperts.co.uk/news/race-to-net-zero#:~:text=Eight%20countries%20have%20already%20achieved%20net%20zero.,greenhouse%20gases%20they%20do%20emit.>

¹⁴¹ BP, *Know Your Carbon Footprint*, 2019, Procured from Twitter.

¹⁴² ConocoPhillips, *76 Fuel Better for the Environment*, 2018, Procured from MediaRadar.

¹⁴³ ConocoPhillips, *Yesterday’s leftovers*, 2024, Procured from MediaRadar.

¹⁴⁴ ConocoPhillips, *Power in cooperation*, 2023, Procured from MediaRadar.

1. ConocoPhillips does not provide sufficient information about its decarbonization plan to allow investors and other financial stakeholders to correctly assess its capacity to align with a 1.5°C pathway....
2. Taking into account ConocoPhillips' oil and gas production from currently producing fields, and its fields that are under development and under field evaluation, its production level in 2030 will be 20% higher than what is required to align with the International Energy Agency's 1.5°C-aligned Net Zero Emissions (NZE) scenario....
3. ConocoPhillips has not committed to stop developing new oil and gas projects beyond those already in development and around 85% of its current expansion plans are in Arctic oil and gas and fracking activities.¹⁴⁵

Shell has also run recent misleading advertisements related to operational emissions. One Instagram post from 2023 boasted: “At Shell, we made progress on our journey to net zero, cutting carbon emissions from our operations by 30% by the end of 2022,”¹⁴⁶ while neglecting to acknowledge that global emissions continue to increase. Two other advertisements from 2024 touted Shell's development of a renewable race fuel, used at the Indianapolis 500 racecourse.¹⁴⁷ Car racing, however, represents a nearly infinitesimal percentage of total fuel use and therefore makes nearly no difference to global emissions. Moreover, the advertisements do not say what the race fuel is made from. Experts have noted that:

A true sustainable fuel is one that does not add any additional carbon to the atmosphere. It is produced using recycled carbon, sourced from either biomass or directly out of the atmosphere. ... The most common sustainable fuels in use today are traditional biofuels. These include bioethanol and biodiesel, which are currently blended with fossil fuels to create, for example, E5 petrol, which consists of up to 5% bioethanol and B7 diesel. Biofuels can be classed as either first generation, where they are formed directly from food crops, or second generation, where they are produced from agricultural biowaste.

First-generation biofuels are probably considered to be a necessary evil at the moment but they are not sustainable.¹⁴⁸

¹⁴⁵ Reclaim Finance, *Assessment of ConocoPhillips' Climate Strategy*, (2023), <https://reclaimfinance.org/site/wp-content/uploads/2023/04/20230413-briefing-climate-strategy-assessment-conocophillips.pdf>.

¹⁴⁶ Shell, *At Shell, we made progress on our journey to net zero*, 2023, Procured from Instagram.

¹⁴⁷ Shell, *Moving Forward with Indy Car*, 2023; *Renewable Race Fuel*, 2024, Procured from MediaRadar.

¹⁴⁸ Gemma Hatton, *Sustainable fuels in motorsport and high-performance applications*, (2022), <https://www.pmw-magazine.com/features/sustainable-fuels-in-motorsport-and-high-performance-applications.html#:~:text=%E2%80%9CMost%20race%20series%20use%20between,switching%20over%20to%20advanced%20biofuels.%E2%80%9D>.

Finally, ExxonMobil has been abundantly criticized for its misleading advertisements, particularly from the 1980s–2010.¹⁴⁹ However, ExxonMobil’s misleading advertisements did not stop in 2010. Several advertisements from the early 2020s tout carbon capture and storage. One 2023 advertisement, with the tag line “Advancing Climate Solutions,” claims that “carbon capture and storage [CCS] can remove more than 90% of emissions from industry and power generation.”¹⁵⁰ In practice, actual capture and storage is nowhere near that level. A 2022 report from Imperial College, London, concluded that from 1996–2020, 197 Mt of carbon were stored. We can compare this to 2020 emissions of 34.4 GtCO₂ (which was down 6% due to the pandemic) and see that the total stored carbon over this period was not even 0.0057% of one year’s emissions—a negligible amount. Looking to the present and future, according to the International Energy Agency, there are only 45 commercial CCS operations in the entire world. Based on projections for future development, the IEA forecasts CO₂ capture in 2030 at 435 million tonnes (Mt) per year.¹⁵¹ In contrast, global carbon dioxide emissions in 2030 are projected to be 42.88 billion tonnes, so projected storage is 0.01% of total emissions—double that of in the past, but still nearly negligible from a climate impact perspective. Moreover, the Imperial College report compared actual storage with official reports, and found that the reports lead to overestimates of actual carbon stored by 19–30 percent.¹⁵²

Another ExxonMobil advertisement boasts “We have a plan to help address climate change,” and ends with its expectation to “reduce our absolute upstream greenhouse gas emissions by ~30% by 2025.”¹⁵³ “Upstream emissions” refers to the company’s supply chain—that is to say, goods and services that ExxonMobil purchases in running its operations; it does not address the larger fraction of emissions that come from consumers burning ExxonMobil oil and gas as intended.

The above examples of advertisements, social media posts, and other statements by Defendants contain deceptive features similar to the strategies they employed earlier in their campaign. Their ongoing deception presents itself in the above examples in at least the following ways (1) the fossil fuel companies depict themselves as being part of the climate solution, when in fact they continue to be committed not just to on-going, but to expanded use of oil and gas; (2) they grossly overstate their commitment to renewable energy; (3) they portray themselves as

¹⁴⁹ Geoffrey Supran and Naomi Oreskes, “Rhetoric and frame analysis of ExxonMobil’s climate change communications”, (2021), <https://www.sciencedirect.com/science/article/pii/S2590332221002335>; Geoffrey Supran and Naomi Oreskes, “Assessing ExxonMobil’s climate change communications (1977–2014)”, (Aug. 23, 2017), <https://iopscience.iop.org/article/10.1088/1748-9326/aa815f>.

¹⁵⁰ ExxonMobil, *Let’s deliver, advancing climate solutions*, 2023, Procured from MediaRadar.

¹⁵¹ International Energy Agency, *Carbon Capture Utilisation and Storage*, <https://www.iea.org/energy-system/carbon-capture-utilisation-and-storage>.

¹⁵² Yuting Zhang, et al., *An Estimate of the Amount of Geological CO₂ Storage over the Period of 1996–2020*, (2022), <https://pubs.acs.org/doi/10.1021/acs.estlett.2c00296>. They concluded that from 1996–2020, 197 Mt of carbon were stored. We can compare this to 2020 emissions of reaching 34.4 GtCO₂ (which was down 6% due to the pandemic) and see that the total stored carbon over this period was not even 0.0057% of the total. <https://www.statista.com/statistics/276629/global-co2-emissions/>.

¹⁵³ ExxonMobil, *We’ve Already Begun*, 2021, Procured from MediaRadar.

significantly reducing emissions by misleadingly emphasizing “operational emissions,” while ignoring the emissions from their products when used as intended; (4) they promote “gas” as a clean fuel, when in reality it is methane (CH₄), a powerful greenhouse gas that has an even stronger warming effect than CO₂;¹⁵⁴ (5) they shift responsibility to the consumer; and (6) they promote themselves as responsibly and substantially contributing to a lower-carbon economy.

These portrayals are deceptive because in reality, the fossil fuel industry, including Defendants, are making miniscule investments in renewable energy, while simultaneously continuing their exploration for and increasing their investment in fossil fuels. Burning of fossil fuels continues to be the single greatest source of greenhouse gas emissions.

C. Parallels Between the Fossil Fuel Industry’s Deception Strategies and the Tobacco Strategy

Based on my experience and research to date, it is my opinion that the fossil fuel industry, including Defendants, used the same strategies, methods, and features of deception to promote their fossil fuel products as the tobacco industry did, starting in the late 1970s. The repeated tactics include at least the following:

- Depicting settled climate science as highly uncertain or not credible in an effort to create and sustain doubt;
- Denying the causal link between fossil fuel products and severe, even potentially fatal climate change dangers;
- Creating and funding front groups to publicly sow doubt about climate science; and
- Funding scientists to publish biased research casting doubt on fossil fuels’ role in causing climate change and to attack mainstream science and credible climate scientists.¹⁵⁵

Of particular note, the tobacco industry and the fossil fuel industry also used many of the same individuals to lead their efforts to manufacture doubt. For example, Frederick Sietz and S. (Siegried) Fred Singer were the prominent faces to make the “Tobacco Strategy” effective and to deploy it for the fossil fuel industry. These two men were substantially responsible for joining forces with think tanks and private companies to challenge and discredit scientific evidence of both the harms of tobacco use and the harms of fossil fuel use.¹⁵⁶

Seitz, Singer, and their colleagues along the way had the power and influence to make the fossil fuel industry’s deception extensive, to influence the mainstream media, and to reach wide audiences. They dealt often with the media and knew how to get press attention and pressure media

¹⁵⁴ For a discussion of why gas is much less “green” than commonly asserted, see Naomi Oreskes, *Wishful thinking about natural gas - Why fossil fuels can’t solve the problems created by fossil fuels* (2024), <https://mondediplo.com/openpage/wishful-thinking-about-natural-gas>.

¹⁵⁵ Naomi Oreskes and Erik M. Conway, *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on issues from Tobacco Smoke to Global Warming*, Bloomsbury: 2010.

¹⁵⁶ *Ibid.*

outlets when their views did not get coverage. They used their scientific credentials to attack science they or their clients did not like.¹⁵⁷

The tobacco industry and the fossil fuel industry both used a fake grassroots group, The Advancement of Sound Science Coalition (TASSC) to front their efforts to discredit science. TASSC was formed in November of 1993 by APCO Associates as a means to hide the connection to Philip Morris's main public relations agency. TASSC's scientific advisors included Sietz, Singer, and others who created the Tobacco Strategy and deployed it for the fossil fuel industry. A predominant goal of TASSC for both the tobacco and fossil fuel industries was to mobilize "third party allies."¹⁵⁸

4. The Evolution of Public Knowledge About Defendants' Deceptive Conduct and Its Effectiveness

As described in Section 3 above, Defendants concealed their deceptive conduct by relying on front groups, trade associations, contrarian scientists, and other third parties to deploy climate denial and disinformation on their behalf. Until very recently, Defendants' ally organizations have largely avoided scrutiny. The first peer reviewed analyses of which I am aware were published in 2018 and 2019.¹⁵⁹ Following the work of Robert J. Brulle's 2019 study, additional information has begun to come to light regarding the third parties involved in Defendants' campaign of deception. The full suite of allies and the extent to which Defendants engaged, funded, used, or otherwise worked with third party organizations to peddle deception is still being studied and revealed in pieces today. Based on the available research and in my expert opinion, Defendants' campaign of deception was effective, and their use of updated and sophisticated deception tactics continues to be effective today.

A. Literature Uncovering Defendants' Knowledge and Their Use of Allies to Deceive

Internal documents regarding the extent of fossil-fuel companies' early understanding of climate change recently began to become visible through investigative journalism. Since then, both scholars and journalists have analyzed the available documents and have provided qualitative accounts of fossil fuel industry's knowledge of climate science and its implications.¹⁶⁰ The

¹⁵⁷ *Ibid.*

¹⁵⁸ *Ibid.*

¹⁵⁹ Downie C. Ad hoc coalitions in the U.S. energy sector: Case studies in the gas, oil, and coal industries. *Business and Politics*. 2018; 20(4):643-668. doi:10.1017/bap.2018.18; Robert J. Brulle, 2019, Networks of Opposition: A Structural Analysis of U.S. Climate Change Countermovement Coalitions 1989–2015, *Sociological Inquiry* vol. 91, 3, online: <https://onlinelibrary.wiley.com/doi/10.1111/soin.12333>.

¹⁶⁰ See, e.g., Geoffrey Supran and Naomi Oreskes 2020 *Environ. Res. Lett.* **15** 119401, <https://iopscience.iop.org/article/10.1088/1748-9326/ab89d5>; Benjamin Franta, 2022, Big Carbon's Strategic Response to Global Warming, 1950-2020 (Ph.D. Dissertation, Stanford University), <https://purl.stanford.edu/hq437ph9153>; Robert J. Brulle, 2022, Advocating inaction: a historical analysis of the Global

following is an illustrative account of the studies and reports that have recently confirmed and assessed the fossil fuel industry's knowledge and deception over time, including through use of front groups and ally organizations.

In April 2018, an article published in *The Guardian* exposed Shell's deceptive climate greenwashing, targeted toward youth audiences.¹⁶¹

Several additional developments came in October 2019. The first congressional hearing was held on the fossil fuel industry's history of climate denial during that month.¹⁶² I testified at that hearing about the history of climate science and on the history of attempts by the fossil fuel industry and its allies to mislead the American people about that science.¹⁶³ Additionally, in October 2019, a scholarly analysis in the peer reviewed journal *Sociological Inquiry* finding that front groups linked to fossil fuel companies, including Defendants, engaged in climate deception, denial, and obstruction was published.¹⁶⁴

Defendants' historical and ongoing deception of the public about climate change and fossil fuels was analyzed by the George Mason University Center for Climate Change Communication in October of 2019 as well. I co-wrote this study. The study found that the fossil fuel industry "actively orchestrate[d] and fund[ed] denial and disinformation so as to stifle action and protect its status quo business operations."¹⁶⁵ The report concluded, "The strategy, tactics, infrastructure, and rhetorical arguments and techniques used by fossil fuel interests to challenge the scientific evidence of climate change—including cherry picking, fake experts, and conspiracy theories—come straight out of the tobacco industry's playbook for delaying tobacco control."¹⁶⁶ The authors

Climate Coalition. *Envtl. Pols.*, 32(2), 185–206, <https://doi.org/10.1080/09644016.2022.2058815>; Benjamin Franta, 2021, Weaponizing economics: Big Oil, economic consultants, and climate policy delay. *Envtl. Pols.*, 31(4), 555–575, <https://doi.org/10.1080/09644016.2021.1947636>; Geoffrey Supran and Naomi Oreskes, 2021, Rhetoric and frame analysis of ExxonMobil's climate change communications, *One Earth* vol. 4, issue 5, 696-719, <https://doi.org/10.1016/j.oneear.2021.04.014>; Geoffrey Supran *et al.*, 2023, Assessing ExxonMobil's global warming projections, *Science* vol. 379, issue 6628, DOI:10.1126/science.abk0063; Alaina Kinol, Yutong Si, John Kinol, and Jennie C. Stephens, 2025, Networks of climate obstruction: Discourses of denial and delay in US fossil energy, plastic, and agrichemical industries. *PLOS Climate* 4(1): e0000370, <https://doi.org/10.1371/journal.pclm.0000370>.

¹⁶¹ Graham Readfearn. April 25, 2018. Hey millennials, don't fall for Shell's pop star PR. *The Guardian*. <https://www.theguardian.com/environment/planet-oz/2018/apr/25/hey-millennials-dont-fall-for-shells-pop-star-pr>.

¹⁶² House Committee on Oversight and Government Reform Democrats, Civil Rights and Civil Liberties Committee Examines the Oil Industry's Climate Denial Campaign, Oct. 21, 2019, <https://oversightdemocrats.house.gov/news/press-releases/civil-rights-and-civil-liberties-subcommittee-examines-the-oil-industrys-climate>.

¹⁶³ Hearing before the Subcommittee on Civil Rights and Civil Liberties of the Committee on Oversight and Reform, House of Representatives, 116th Congress, Oct. 23, 2019, Serial No. 116-67, <https://docs.house.gov/meetings/GO/GO02/20191023/110126/HHRG-116-GO02-Transcript-20191023.pdf>.

¹⁶⁴ Robert J. Brulle, 2019, Networks of Opposition: A Structural Analysis of U.S. Climate Change Countermovement Coalitions 1989–2015, *Sociological Inquiry* vol. 91, issue 3, <https://onlinelibrary.wiley.com/doi/10.1111/soin.12333>.

¹⁶⁵ John Cook, Geoffrey Supran, Stephan Lewandowsky, Naomi Oreskes, and Ed Maibach, 2019, *America Misled: How the fossil fuel industry deliberately misled Americans about climate change*, p. 3, Fairfax, VA: George Mason University Center for Climate Change Communication, <https://www.climatechangecommunication.org/america-misled/>.

¹⁶⁶ *Ibid.*

reported that climate disinformation “reduces public understanding of climate change, lowers support for climate action, cancels out accurate information, polarizes the public along political lines, and reinforces climate silence—the lack of public dialogue and private conversation about climate change” and concluded that “Big Oil is the new Big Tobacco.”¹⁶⁷

In March 2020, journalists reported on archival documents showing that Defendant Shell paid Dutch climate change denier Frits Böttcher from 1989 to 1998 to promote public doubt about climate change.¹⁶⁸

Also in 2020, the Senate Special Committee on the Climate Crisis issued a report that explained the fossil fuel companies’ original and continued use of front groups and third parties to spread climate disinformation. The report documented the funding of the Global Climate Coalition, the Heartland Institute, and the Competitive Enterprise Institute. The Senate Report referenced an undercover investigation that revealed the Heartland Institute spends between 2/3 and 3/4 of its funding on attacking climate science and combatting efforts to address climate change. The Senate Report further noted that peer reviewed studies have identified over 100 fossil fuel industry front groups and that these front groups continue to be used, paused, and renamed over time such that obtaining a complete picture of these groups, activities, and funding relationships is very difficult.¹⁶⁹ The Senate Report concluded that one of the purposes of the front groups and trade associations is to do the dirty work for their member companies. For example, in the past, Tom Donohue, who was Chief Executive Officer of the US Chamber of Commerce from 1997-2021, admitted, “I want[ed] to give [my members] all the deniability they need.”¹⁷⁰

In 2021, one of ExxonMobil’s lobbyists, Keith McCoy (senior director of federal relations for ExxonMobil), admitted that ExxonMobil’s advertised support for climate action was a public relations exercise rather than genuine. He stated that the company had a history of “aggressively fight[ing] against some of the science” of climate change and had “join[ed] some of these shadow groups” to counteract efforts to address climate change.¹⁷¹

Also in 2021, a historical study of the American Petroleum Institute’s use of economic consultants since the late 1980s published in *Environmental Politics* found that Defendants hired consultants to misleadingly convince the public that controlling fossil fuels to prevent global warming would be economically non-viable. The study further found that the work relied on

¹⁶⁷ *Ibid.* at 4, 12.

¹⁶⁸ Platform Authentieke Journalistiek, March 3, 2020, Shell, Bayer among multinationals that funded climate scepticism, Follow the Money, <https://www.ftm.eu/articles/shell-bayer-among-multinationals-that-funded-climate-scepticism>.

¹⁶⁹ Senate Democrats’ Special Committee on the Climate Crisis, 2020, The Case for Climate Action: Building a Clean Economy for the American People, Dark Money (chapter), pp. 199-214, <https://www.whitehouse.senate.gov/wp-content/uploads/imo/media/doc/Dark%20Money%20Chpt%20SCCC%20Climate%20Crisis%20Report.pdf>.

¹⁷⁰ *Ibid.*, at 209.

¹⁷¹ Hiroko Tabuchi, June 30, 2021, In Video, Exxon Lobbyist Describes Efforts to Undercut Climate Action, *The New York Times*, <https://www.nytimes.com/2021/06/30/climate/exxon-greenpeace-lobbyist-video.html>.

incomplete and misleading economic models designed to give Defendants the desired result.¹⁷²

In 2022, PBS, BBC, and Paramount released documentary films that exposed decades of climate deception from ExxonMobil and other Defendants.¹⁷³ Also in 2022, a historical analysis of the Global Climate Coalition was published in the peer reviewed journal *Environmental Politics*.¹⁷⁴ The author concluded that the GCC was successful in obstructing climate action by tracking and contesting climate science, funding and utilizing economic studies to amplify and legitimize their version of the climate science, and shifting the public's understanding of climate change through public relations campaigns. Another 2022 analysis of the public communications, actions, and investments of Defendants BP, Chevron, ExxonMobil, and Shell was published in *PLoS ONE*. It concluded that Defendants' public statements about climate change and their corporate decarbonization do not align with company investments, which remain predominantly focused on fossil fuels.¹⁷⁵

In 2022, an analysis of Defendants' annual sustainability reports published in *Energy Research & Social Science* found that Defendants still deceive the public about the causes of climate change despite acknowledging it as real.¹⁷⁶ And in 2022, the first comprehensive historical account of Defendants' internal knowledge of climate change and public deception was completed in a PhD dissertation at Stanford University, which was made publicly available in September 2023.¹⁷⁷

Also in 2023, the IPCC reported a scholarly consensus that addressing climate change “has been made more urgent by delays due to misinformation about climate science that has sowed uncertainty and impeded recognition of risk (*high confidence*).”¹⁷⁸

The 2024 Joint Senate Report found that the fossil fuel industry has been aware of the

¹⁷² Benjamin Franta, 2021, Weaponizing Economics: Big Oil, Economic Consultants, and Climate Policy Delay, *Environmental Politics* 31(4), 555–575, <https://doi.org/10.1080/09644016.2021.1947636>.

¹⁷³ Black Gold, 2022, Paramount Plus; The Power of Big Oil, 2022, PBS Frontline; Big Oil v the World, 2022, BBC.

¹⁷⁴ Robert J. Brulle, 2022, Advocating inaction: a historical analysis of the Global Climate Coalition, *Environmental Politics*, <https://www.tandfonline.com/doi/full/10.1080/09644016.2022.2058815>.

¹⁷⁵ Mei Li, Gregory Trencher, and Jusen Asuka, 2022, The clean energy claims of BP, Chevron, ExxonMobil and Shell: A mismatch between discourse, actions and investments. *PLoS ONE* 17(2), <https://doi.org/10.1371/journal.pone.0263596>.

¹⁷⁶ Matthew Megura and Ryan Gunderson, 2022, Better poison is the cure? Critically examining fossil fuel companies, climate change framing, and corporate sustainability reports, *Energy Research & Social Science*, vol. 85, 102388, <https://doi.org/10.1016/j.erss.2021.102388>.

¹⁷⁷ Benjamin Franta, 2022, Big Carbon's Strategic Response to Global Warming, 1950-2020 (Ph.D. Dissertation, Stanford University), <https://purl.stanford.edu/hq437ph9153>.

¹⁷⁸ Hicke, J.A., S. Lucatello, L.D., Mortsch, J. Dawson, M. Domínguez Aguilar, C.A.F. Enquist, E.A. Gilmore, D.S. Gutzler, S. Harper, K. Holsman, E.B. Jewett, T.A. Kohler, and K.A. Miller, 2022: North America. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 1929–2042, doi:10.1017/9781009325844.016.

reality of climate change (and the predominant role that fossil fuels play in global warming) for nearly 60 years. It also concluded that the fossil fuel industry consistently conducted deception campaigns.”¹⁷⁹

In 2025, a scholarly analysis published in the peer reviewed journal *Renewable and Sustainable Energy Reviews* discussed how, since the late 1990s, fossil fuel companies have shifted from explicit climate denial towards more subtle “misleading behavior,” including falsely promoting fossil fuels use as irreplaceable and inevitable (necessitarianism), greenwashing (including overstating commitment to renewables), blaming consumers and government (strategic blame placement), and promoting nonexistent or inadequate solutions (techno-optimism; especially exaggerating the capabilities of carbon capture). The study determined that this behavior is ongoing. The authors also observed that “fossil fuel companies have mastered the art of omission” and that Shell’s claims that a successful shift to a low carbon energy system will “require...gas and oil” is “factually incorrect.”¹⁸⁰

Based on my review of this research, and applying my expertise, it is clear to me that Defendants’ use of third-party allies has been largely obscured through layers of trade associations, think tanks, and other organizations. In addition, the complex funding and support structures of fossil fuel company allies have served to cover up Defendants’ involvement in promoting disinformation and misleading information. It is my opinion that the fossil fuel industry, including Defendants, was so successful at concealing their deceptive conduct that uncovering the conduct itself has required efforts by subject-matter experts in journalism, academia, government, and other areas. The reports and studies referenced above confirm that the public has only just begun to unravel and systematically map these activities, and the public’s awareness of all of Defendants’ deceptive conduct remains incomplete.

Moreover, Defendants continue to deny and obscure their conduct, including the extent and material nature of their deception. In 2021, for example, the chief executives from ExxonMobil, Chevron, Shell, and BP testified to Congress under oath that they had never engaged in campaigns to mislead the public about climate change and fossil fuels, with ExxonMobil CEO Darren Woods testifying that the company’s public statements about climate change and fossil fuels were always “entirely consistent” with contemporaneous scientific consensus.¹⁸¹ Shell President Gretchen Watkins rejected a request to commit to no longer obstructing efforts to address

¹⁷⁹ House Committee on Oversight and Accountability and Senate Committee on the Budget, *Denial, Disinformation, and Doublespeak: Big Oil’s Evolving Efforts to Avoid Accountability for Climate Change*, Joint Staff Report (2024) p. 8, https://www.budget.senate.gov/imo/media/doc/fossil_fuel_report1.pdf.

¹⁸⁰ Giuliana Gentile and Joyeeta Gupta, Orchestrating the narrative: The role of fossil fuel companies in delaying the energy transition, *Renewable and Sustainable Energy Reviews*, vol. 212, 115359, p. 4, 1364-0321, <https://doi.org/10.1016/j.rser.2025.115359>.

¹⁸¹ Hiroko Tabuchi and Lisa Friedman, Oct. 28, 2021, Oil Executives Grilled Over Industry’s Role in Climate Disinformation, *The New York Times*, <https://www.nytimes.com/2021/10/28/climate/oil-executives-house-disinformation-testimony.html>.

climate change, instead saying, “What I’ll commit to is continuing to be an active member of the API [American Petroleum Institute],” in effect committing to continued deception.¹⁸² A 2024 *Guardian* article also reported that Shell’s Gretchen Watkins donated more than half a million dollars to organizations that denied the reality of climate change or disparaged climate science, including the Heartland Institute.

B. Defendants’ Campaign of Deception Has Affected Public Knowledge About Climate Change

Defendants’ ongoing campaign of deception has affected public knowledge about climate change. Their efforts to stifle and confuse the public’s awareness of climate change was so significant that it prompted certain scientific societies to take the unusual step of making statements about the consensus of climate change. For example, the Royal Society wrote to Exxon’s Director of Corporate Affairs in the United Kingdom to convey the Society’s distress at Exxon’s misinformation and to follow-up on Exxon’s commitment to the Society that Exxon would stop funding other organizations to disparage climate science.¹⁸³

Public opinion data show significant and abrupt changes in public understanding and beliefs about climate change at the same times that Defendants accelerated their public-facing disinformation campaigns in the early 1990s. For example, the percentage of the public believing global warming was real declined from 68% to 57% from 1992 to 1994, and the percentage of the public that believed immediate action should be taken to reduce emissions dropped from nearly 30% to only 10% from the late 1980s to 1994.¹⁸⁴ Based on this research, shifts in public awareness of and beliefs about climate change occurred at the same time as Defendants’ disinformation campaigns, and the public’s beliefs about the issues shifted at the same time Defendants deceived the public about climate change being real, serious, urgent, and caused primarily by fossil fuels.

Historical poll data has further shown that from approximately 2000 to 2010, public concern about the seriousness of climate change significantly declined. The percentage of the public that believed that the seriousness of climate change was exaggerated increased from only 30% to nearly 50%.¹⁸⁵ This was the same time frame that Defendants accelerated their public-facing greenwashing campaigns, which falsely portrayed (and still falsely portray) Defendants as solving the problem of climate change.

Similarly, in the mid-2010s, a Yale University-Gallup poll found that while 71 percent of Americans personally believed global warming was happening, only 48 percent believed that there

¹⁸² *Ibid.*

¹⁸³ Royal Society and ExxonMobil, *Royal Society*, Sept. 4, 2006, <https://royalsociety.org/news-resources/publications/2006/royal-society-exxonmobil/#:~:text=In%20September%202006%2C%20the%20Royal,do%20and%20don't%20know>.

¹⁸⁴ Matthew C. Nisbet & Teresa Myers, 2007, *Trends: Twenty Years of Public Opinion About Global Warming*, PUB. OP. QTRLY Vol. 71, No. 3 444, <https://www.jstor.org/stable/4500386>.

¹⁸⁵ Gallup, In Depth: Topics A to Z: Environment, <https://news.gallup.com/poll/1615/environment.aspx> (accessed 14 March 2025).

was a consensus among the scientific community, and 40 percent believed there was a lot of disagreement among scientists over whether global warming was occurring.¹⁸⁶ This contrasts with the actual level of agreement among scientists at that time, which was 97–100%¹⁸⁷

Americans remain confused on these issues. The Yale Program on Climate Change Communication has conducted nationally representative surveys about the American public’s climate change knowledge since 2008, and has found public misunderstanding about the scientific consensus on climate change in every survey.¹⁸⁸ In 2018, a Yale Program on Climate Change Communication survey indicated that only about 15% of Americans understood that nearly all climate scientists (90-100%) have concluded that human-caused global warming is happening,¹⁸⁹ and that only half of Americans were sure that climate change was happening.¹⁹⁰

There is no question as to the existence of climate change or the scientific consensus on the issue. The IPCC has said since 1995 that climate change was underway.¹⁹¹ It has said since 2013 that “warming of the climate system is unequivocal,” and is leading to “unprecedented” changes to the climate.¹⁹² Yet, today, over twelve years after the IPCC’s latter conclusion, over 40% of the public believe that the seriousness of climate change is exaggerated.¹⁹³ It is my expert opinion that the fossil fuel industry’s conduct, including Defendants’ conduct, is a significant reason why.

¹⁸⁶ American Opinions on Global Warming: A Yale/Gallup/Clearvision Poll, Yale Program on Climate Change Communication, July 31, 2007, <http://climatecommunication.yale.edu/publications/american-opinions-on-global-warming>.

¹⁸⁷ John Cook, Naomi Oreskes, *et al.*, Consensus on consensus: a synthesis of consensus estimates on human-caused global warming, 2016, *Environ. Res. Lett.* **11** 048002, <https://iopscience.iop.org/article/10.1088/1748-9326/11/4/048002>.

¹⁸⁸ Climate Change in the American Mind: March 2018, Yale Program on Climate Change Communication, George Mason University Center for Climate Change Communication, p. 9, <https://climatecommunication.yale.edu/wp-content/uploads/2018/04/Climate-Change-American-Mind-March-2018-1.pdf>.

¹⁸⁹ *Ibid.* at 3; John Cook, Naomi Oreskes, *et al.*, Consensus on consensus: a synthesis of consensus estimates on human-caused global warming, 2016, *Environ. Res. Lett.* **11** 048002, <https://iopscience.iop.org/article/10.1088/1748-9326/11/4/048002>.

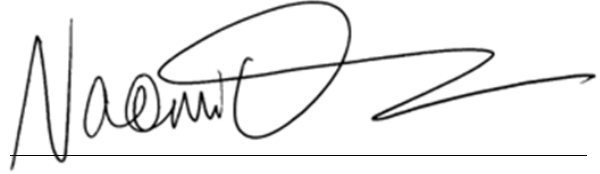
¹⁹⁰ Nearly Half of Americans Are Sure Global Warming Is Happening, Climate Change in the American Mind: March 2018, Yale Program on Climate Change Communication, George Mason University Center for Climate Change Communication, <https://climatecommunication.yale.edu/visualizations-data/nearly-half-americans-sure-global-warming-happening/>.

¹⁹¹ Intergovernmental Panel on Climate Change, *Climate Change 1995: the Science of Climate Change*, at 4–5, 35–39 (pub. 1996), https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_sar_wg_I_full_report.pdf.

¹⁹² Intergovernmental Panel on Climate Change, *Climate Change 2013: The Physical Science Basis*, Summary for Policymakers (2013), https://www.ipcc.ch/site/assets/uploads/2018/03/WG1AR5_SummaryVolume_FINAL.pdf.

¹⁹³ Gallup, In Depth: Topics A to Z: Environment, <https://news.gallup.com/poll/1615/environment.aspx> (accessed 29 April 2025).

I declare on May 8, 2025, under the penalty of the laws of Hawai‘i, that the foregoing is true and correct.

A handwritten signature in black ink, appearing to read 'Naomi Oreskes', written over a horizontal line.

Naomi Oreskes, Ph.D.

IN THE CIRCUIT COURT OF THE FIRST CIRCUIT
STATE OF HAWAII

CITY AND COUNTY OF HONOLULU and
HONOLULU BOARD OF WATER
SUPPLY,

Plaintiffs,

vs.

SUNOCO LP; ALOHA PETROLEUM,
LTD.; ALOHA PETROLEUM LLC; EXXON
MOBIL CORP.; EXXONMOBIL OIL
CORPORATION; ROYAL DUTCH SHELL
PLC; SHELL OIL COMPANY; SHELL OIL
PRODUCTS COMPANY LLC; CHEVRON
CORP.; CHEVRON USA INC.; BHP GROUP
LIMITED; BHP GROUP PLC; BHP
HAWAII INC.; BP PLC; BP AMERICA
INC.; MARATHON PETROLEUM CORP.;
CONOCOPHILLIPS; CONOCOPHILLIPS
COMPANY; PHILLIPS 66; PHILLIPS 66
COMPANY; AND DOES 1 through 100,
inclusive,

Defendants.

CIVIL NO. 1CCV-20-0000380 (LWC)

(Other Non-Vehicle Tort)

**DECLARATION OF RAYMOND STUART
BRADLEY PH.D.**

**DECLARATION OF RAYMOND STUART BRADLEY Ph.D. IN SUPPORT OF
PLAINTIFF'S OPPOSITION TO DEFENDANT'S MOTION FOR SUMMARY
JUDGMENT BASED ON THE STATUTE OF LIMITATIONS**

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I, Raymond Stuart Bradley, declare as follows:

1. I am a climatologist, meaning I am an expert in climate science.
2. I have been retained by counsel for Plaintiffs, the City & County of Honolulu and the Board of Water Supply, as an expert. I can truthfully testify to the matters contained in this declaration. I understand Plaintiffs will submit this declaration in support of an opposition to a summary judgment motion in this litigation.
3. This declaration is submitted for the limited purposes of the motion at issue. I reserve the right to amend and supplement my testimony later in this litigation.
4. All of the facts and data I am relying on for my opinions are the types of facts and data that experts in my field reasonably rely upon.

I. Structure of My Testimony

5. **Section II** describes my qualifications.
6. **Section III** provides some background about climate change and the causal role of human activities, especially the use of fossil fuels.
7. **Section IV** presents the scientific consensus that society must immediately and rapidly eliminate most uses of fossil fuels to achieve the goals of the Paris Agreement, the international agreement that aims to limit global warming. Critically, current carbon dioxide removal technologies do not alter the need for this drawdown in fossil fuel usage. (Opinion 1)
8. **Section V** describes how most Defendants have misleadingly asserted that their businesses support or are consistent with the goals of the Paris Agreement. These Defendants' statements are misleading because although the Paris Agreement's temperature goals require immediate and rapid reductions in fossil fuel use, all Defendants (except Woodside Energy

Hawaii¹) are investing to expand fossil fuel production and sales. Such expansions will increase greenhouse gas emissions and are incompatible with achieving the goals of the Paris Agreement.

(Opinion 2)

9. **Section VI** addresses how some Defendants have misleadingly suggested that their actions support or are consistent with “net zero” greenhouse gas emission goals. These Defendants have defined “net zero” in ways that exclude the emissions that are released when their fossil fuel products are used. This is misleading because the overwhelming majority of emissions caused by Defendants’ fossil fuel products are released when consumers use (and combust) them. In reality, because these Defendants are investing in expanded fossil fuel production and sales, their activities do not support a “net zero” emissions outcome. (Opinion 3)

II. Qualifications

10. I am a Research Professor and former University Distinguished Professor at the University of Massachusetts Amherst. I hold a B.Sc. from the University of Southampton (United Kingdom); an M.A. from the University of Colorado, Boulder; a Ph.D in Climatology from the University of Colorado, Boulder; and a D.Sc. in Paleoclimatology from the University of Southampton.

11. I have taught and conducted research at the University of Massachusetts, Amherst as a professor for most of the period since 1975. In 2002, I was named a University Distinguished Professor in recognition of my considerable research, teaching, and public service accomplishments. In 2023, I retired from work as a full-time University Distinguished Professor. Today, I continue to serve as a Research Professor and the Principal Investigator for the World

¹ For Woodside Energy Hawaii, I am informed that data are not readily available at this time.

Climate Research Programme's International Office for Climate and Cryosphere, which is hosted by the University of Massachusetts, Amherst.

12. I have extensive research, teaching, and public service experience as a climatologist. My expertise encompasses issues such as the causes of global warming; the causes of increased greenhouse gas concentrations in the atmosphere; the contribution of fossil fuels to these increased atmospheric greenhouse gas concentrations; the need to reduce greenhouse gas emissions to avoid serious harm from climate change; what human activities are consistent or inconsistent with the need to reduce greenhouse gas emissions; and what human activities are consistent or inconsistent with achieving climate-related objectives like the Paris Agreement's temperature goals.

13. I have received many honors and awards for my work in climatology. Among other things, I am an Elected Fellow of the American Association for the Advancement of Science ("AAAS"),² an elected fellow of the American Geophysical Union, and an International Fellow of the Royal Society of Canada. I have received honorary degrees from Queen's University (Canada), the University of Bern (Switzerland), and Lancaster University (United Kingdom). I have held appointments, directorships, and memberships in support of a wide array of domestic and international climate-related efforts. I have been invited to speak about climate change by many leading universities and other institutions around the globe ranging from the Massachusetts Institute of Technology to Nanjing University (China). I have testified before a U.S. Senate Standing Committee about global warming, and I have briefed individual members of Congress,

² The AAAS is a prominent U.S. scientific society that is perhaps best known for publishing the journal *Science*. According to the AAAS, Elected Fellows are those AAAS members "whose efforts on behalf of the advancement of science or its applications are scientifically or socially distinguished."

officials at the World Bank, and the Chief of the Naval Operations Strategic Studies Group at the Naval War College about the subject.

14. I have authored, co-authored, or co-edited 12 books. I have authored or co-authored more than 200 journal articles or book chapters in climatology, including many articles in the world's preeminent scientific journals. My work has been cited well over 50,000 times according to Google Scholar's citation metrics, and I have secured multiple tens of millions of dollars in research grants.

15. A version of my curriculum vitae, dated March 12, 2025, is attached as **Exhibit 1**.

III. Background on Climate Change and the Causal Role of Fossil Fuels

16. Global temperatures are warming, and fossil fuel use is the primary cause.

17. Human-caused greenhouse gas emissions, most importantly emissions of carbon dioxide (CO₂), are the predominant cause of global warming. As the Intergovernmental Panel on Climate Change ("IPCC"), a respected international body that reviews and assesses the state of climate science, has stated, "Human activities, principally through emissions of greenhouse gases, have unequivocally caused global warming."³

18. Fossil fuels are the primary driver of human-caused greenhouse gas emissions. Of the approximately 2,600 gigatons of CO₂ emitted to the atmosphere since the beginning of the industrial era, about 70% has come from fossil fuels.⁴

³ IPCC, *Climate Change 2023 Synthesis Report* at 42 (2023), https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf.

⁴ P. Friedlingstein et al., *Global Carbon Budget 2024*, Earth Syst. Sci. Data (17)965-1039, 994 (2025), <https://doi.org/10.5194/essd-17-965-2025>. Quantities of carbon emissions are converted to quantities of CO₂ emissions using a 3.67 conversion factor.

19. Fossil fuel-derived emissions have caused a persistent increase in global temperatures in the atmosphere and oceans, along with changes in hydrologic conditions (e.g., storms, precipitation, floods, and droughts) across many parts of the world.⁵

20. According to the World Meteorological Organization, “The annually averaged global mean near-surface temperature in 2024 was $1.55\text{ }^{\circ}\text{C} \pm 0.13\text{ }^{\circ}\text{C}$ above the 1850–1900 average.” This was “the warmest year in the 175-year observational record.” “For global mean temperature, each of the past ten years, 2015–2024, were individually the ten warmest years on record.”⁶

21. Critically, the greenhouse gas emissions that are warming the planet have been emitted disproportionately in recent years. Globally, about 1,800 gigatons of fossil fuel-derived CO₂ were emitted between 1850 and 2023, and about 80% of that has been emitted since 1960.⁷ More than half of all fossil-fuel-derived CO₂ emitted *in history* has been emitted since 1994.⁸

22. Climate change already is causing harm in Hawai‘i and Honolulu. As the federal Fifth National Climate Assessment reported, “Climate change—especially sea level rise, altered rainfall patterns, and rising ocean and air temperatures—impairs access to clean water and healthy food, undermines human health, threatens cultural resources and the built environment, exacerbates inequities, and disrupts economic activity and diverse ecosystems in Hawai‘i and the US-Affiliated Pacific Islands.” These impacts are deadly: “82% of heat-related deaths in Honolulu

⁵ See generally IPCC, *Climate Change 2023 Synthesis Report*.

⁶ World Meteorological Organization, *State of the Global Climate 2024* at 3 (2025), <https://library.wmo.int/idurl/4/69455>.

⁷ P. Friedlingstein et al., *Global Carbon Budget 2024* at 985.

⁸ Calculated from the dataset disclosed by P. Friedlingstein et al., *Global Carbon Budget 2024*, available at <https://globalcarbonbudgetdata.org/latest-data.html>.

are already attributable to climate change.”⁹ As the Fourth National Climate Assessment reported, Hawai‘i also is being impacted by ocean acidification, which poses serious problems for marine organisms like corals that have calcium carbonate in their structures. Hawai‘i has already experienced multiple mass coral bleaching events and coral disease outbreaks, which are especially significant because coral reefs are rich ecosystems that support a vast food web of marine organisms.¹⁰

IV. Opinion 1. Society must immediately and rapidly eliminate most uses of fossil fuels to achieve the goals of the Paris Agreement, especially as there currently is no technology that can operate at a sufficiently large scale to sever the causal link between fossil fuel use and greenhouse gas emissions.

23. Participants representing 196 countries entered an international climate agreement known as the Paris Agreement in 2015.¹¹

24. The Paris Agreement established two temperature goals: to limit the increase in global atmospheric temperatures during this century to no more than 2°C above pre-industrial levels, and to pursue even stronger efforts to limit the temperature increase to no more than 1.5°C during this century.¹²

25. Because climatologists have extensively studied the relationship between greenhouse gas emissions and increased temperatures, it is a relatively simple matter to estimate how much more greenhouse gases likely can be emitted before warming exceeds the Paris

⁹ A.G. Frazier et al., *Fifth National Climate Assessment*, ch. 30, <https://doi.org/10.7930/NCA5.2023.CH30>.

¹⁰ J.-A. Leong et al., *Fourth National Climate Assessment*, ch. 23, <https://doi.org/10.7930/j0w66hpm>.

¹¹ UNFCCC, *The Paris Agreement: What Is the Paris Agreement?*, <https://unfccc.int/process-and-meetings/the-paris-agreement>.

¹² Paris Agreement (2015), https://unfccc.int/sites/default/files/english_paris_agreement.pdf.

Agreement's 1.5°C and 2°C goals. This quantity of greenhouse gases that can be emitted is often called a "carbon budget."

26. A scientific consensus has emerged that the remaining carbon budget before global temperatures exceed the Paris Agreement's goals is very small. Because fossil fuel use accounts for such a large share of human-caused greenhouse gas emissions, a scientific consensus also has emerged that the Paris Agreement's temperature goals require society to sharply and immediately phase out most fossil fuel use. Based on my many decades of research and analysis, I agree with this consensus.

27. Stark numbers show why this consensus has emerged. According to the *Global Carbon Budget*, an authoritative analysis performed by a global consortium of climatologists, annual fossil fuel-derived greenhouse gas emissions reached an estimated 37.4 billion tons (gigatons, or "Gt") of CO₂-equivalent emissions in 2024. The remaining carbon budget for society to limit global warming to 1.5°C (with a probability of 50% or better) is about 235 Gt of CO₂-equivalent emissions. If we assume that current emissions levels continue, our "carbon budget" for 1.5°C of warming would be about 6 years of additional emissions. For 1.7°C, the equivalent figure would be about 14 years; and for 2.0°C, the equivalent figure would be about 27 years.¹³

28. Therefore, achieving the Paris Agreement's temperature goals of limiting temperature increases to 1.5°C or 2°C require rapid and immediate reductions in greenhouse gas emissions, and consequently rapid and immediate reductions in fossil fuel use.

29. This view is well-accepted. For example, the IPCC opined in 2022 that achieving the Paris Agreement's temperature goals "involve rapid and deep and in most cases immediate

¹³ P. Friedlingstein et al., *Global Carbon Budget 2024* at 968–69.

[greenhouse gas] emission reductions in all sectors.”¹⁴ To achieve more than 50% odds of limiting warming to 1.5°C, CO₂ emissions must be 50% lower than 2019 levels in the 2030s, and CO₂ emissions must reach net *zero* in the 2050s, meaning that any CO₂ emissions would have to be offset with activities that remove an equivalent quantity of CO₂ from the atmosphere.¹⁵ Because fossil fuels account for such a large proportion of greenhouse gas emissions, “limiting warming to 2°C or 1.5°C will require faster diffusion of installed capacity of low-carbon energy options and a rapid phase-out of fossil-based options.”¹⁶

30. For another example, a 2023 report by the International Energy Agency (“IEA”)—an intergovernmental association formed by many of the world’s leading economies—analyzed the emissions reductions and fossil fuel usage reductions needed to achieve the “Net Zero Emissions by 2050” (“NZE”) pathway, a scenario for future energy consumption consistent with limiting warming to 1.5°C. Under this scenario, fossil fuel use would have to decline “by more than 25% by 2030 and 80% by 2050.”¹⁷ Greenhouse gas emissions from any remaining fossil fuel use would have to be offset with other activities that remove greenhouse gases.

¹⁴ IPCC Sixth Assessment Report, Working Group III, *Climate Change 2022: Mitigation of Climate Change* at 24 (2022), https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_FullReport.pdf.

¹⁵ *Id.* at 77 (“Mitigation pathways limiting warming to 1.5°C (>50%) with no or limited overshoot reach 50% reductions of CO₂ in the 2030s, relative to 2019, then reduce emissions further to reach net zero CO₂ emissions in the 2050s.”).

¹⁶ *Id.* at 1658.

¹⁷ IEA, *Net Zero Roadmap: A Global Pathway to Keep the 1.5°C Goal in Reach* at 16, 60 (2023), <https://www.iea.org/reports/net-zero-roadmap-a-global-pathway-to-keep-the-15-0c-goal-in-reach>.

31. To summarize: the Paris Agreement’s goals allow for only limited additional CO₂ to be emitted to the atmosphere. Achieving these goals necessarily implies sharply and immediately reducing fossil fuel production and use.

32. Critically, there is currently no technology that can operate at a sufficiently large scale to sever the causal link between fossil fuel use and greenhouse gas emissions.¹⁸ This is clearly demonstrated by the relentless increases in global atmospheric CO₂ concentrations to date that have correlated with fossil fuel use.

33. Although some companies are developing “carbon capture and storage” technologies that could capture and contain CO₂ emitted from fossil fuel use, these technologies have not yet proved themselves commercially viable at anything remotely approaching a sufficiently large scale. For example:

- a. ExxonMobil—which asserts that it is “a global leader in carbon capture and storage”¹⁹—claimed that in the year 2022, its carbon capture and storage projects stored just 6 or 7 million tons (megatons, or “Mt”) of CO₂.²⁰ In the same year, ExxonMobil reported that the petroleum products that it sold—when used—would result in about 690 Mt of CO₂-equivalent emissions.²¹ Assuming ExxonMobil’s

¹⁸ Ho, D.T., *Carbon dioxide removal is not a current climate solution — we need to change the narrative*, Nature (2023), <https://doi.org/10.1038/d41586-023-00953-x>.

¹⁹ ExxonMobil, *Advancing Climate Solutions 2024*, <https://corporate.exxonmobil.com/sustainability-and-reports/advancing-climate-solutions/low-carbon-solutions#Carboncaptureandstorage>.

²⁰ ExxonMobil, *Advancing Climate Solutions 2023* at 90, <https://corporate.exxonmobil.com/-/media/global/files/advancing-climate-solutions-progress-report/2023/2023-advancing-climate-solutions-progress-report.pdf>.

²¹ *Id.* at 92.

figures to be accurate, the company was capturing and storing about 1% of the emissions that would result from the use of its petroleum products.

- b. Similarly, the IEA estimated in 2024 that the total *global* carbon capture and storage capacity was only about 50 Mt of CO₂ per year.²² This was about 0.13% of the fossil fuel-derived greenhouse gas emissions that were released in 2024.²³

34. Further, even assuming these “carbon capture and storage” technologies might develop in the coming years, the Paris Agreement’s temperature goals require *immediate* action to phase out fossil fuel use.²⁴

35. Based on the foregoing, plans by an oil and gas company to *increase* fossil fuel production and sales are incompatible with the Paris Agreement’s goals of limiting the increase in global atmospheric temperatures during this century to no more than 2°C above pre-industrial levels, and preferably no more than 1.5°C above pre-industrial levels.

V. Opinion 2. Most Defendants have misleadingly asserted that their businesses support or are consistent with the goals of Paris Agreement.

36. BP, Chevron, ConocoPhillips, ExxonMobil, Phillips 66, and Shell have asserted that they are supportive of, or their businesses are consistent with, the goals of the Paris Agreement. However, all Defendants except Woodside Energy Hawaii (for which I am informed that data are not readily available) are investing to *expand* fossil fuel production and sales. Because such investments are inconsistent with limiting global atmospheric temperature increases to below 1.5°

²² IEA, *Carbon Capture Utilization and Storage*, <https://www.iea.org/energy-system/carbon-capture-utilisation-and-storage>.

²³ P. Friedlingstein et al., *Global Carbon Budget 2024* at 968 (estimating 10.2 Gt of carbon emitted in 2024, which converts to 37.4 Gt of CO₂).

²⁴ Ho, D.T., *Carbon dioxide removal is not a current climate solution — we need to change the narrative*.

or 2°C, it is misleading for BP, Chevron, ConocoPhillips, ExxonMobil, Phillips 66, and Shell to assert that they are supportive of or consistent with the goals of the Paris Agreement.

Examples of statements by these Defendants about the Paris Agreement include the following:

Defendant	Statements
BP	In its <i>Annual Report and Form 20-F 2024</i> , BP claimed to be “[p]ursuing a strategy that is consistent with the Paris goals.” BP clarified that “[w]hen we refer to ‘consistency with Paris’ we consider this to mean consistency with the world meeting the temperature goal set out in Articles 2.1(a) and 4.1 of the Paris Agreement on Climate Change,” namely the 1.5° and 2°C goals. ²⁵
Chevron	Chevron’s <i>2023 Climate Change Resilience Report</i> proclaimed, “At Chevron, we believe the future of energy is lower carbon, and we support the global ambitions of the Paris Agreement.” ²⁶ “We support the goals of the Paris Agreement.” ²⁷
ConocoPhillips	In its <i>2023 Sustainability Report</i> , ConocoPhillips stated, “We support the aims of the Paris Agreement, which include limiting the rise of global average temperatures well below 2 degrees Celsius, as reflected in our ambition to be a net-zero operational emissions company by 2050.” ²⁸
ExxonMobil	ExxonMobil’s <i>2020 Annual Report</i> stated that the company “established new plans that are projected to be consistent with the goals of the Paris Agreement.” ²⁹ “We seek to be an industry leader in greenhouse gas performance by 2030 with emission reduction plans projected to be consistent with goals of the Paris Agreement.” ³⁰ ExxonMobil’s <i>2021 Energy & Carbon Summary</i> stated that the company “supports the aims of the 2015 Paris Agreement and efforts to achieve

²⁵ BP, *Annual Report and Form 20-F 2024*, at 10.

²⁶ Chevron, *2023 Climate Change Resilience Report*, at 5.

²⁷ *Id.* at 54.

²⁸ ConocoPhillips, *2023 Sustainability Report*, at 34.

²⁹ ExxonMobil, *2020 Annual Report*, at ii.

³⁰ *Id.* at v.

	net-zero emissions” and “respects and supports society’s ambition to achieve net-zero emissions by 2050.” ³¹
Phillips 66	Phillips 66 stated in its <i>2024 Sustainability and People</i> report, “We support the goals of the Paris Agreement and are committed to being a part of the solution to help the world address climate change.” ³²
Shell	Shell stated in its <i>Sustainability Report 2022</i> that it “supports the more ambitious goal of the Paris Agreement, which is to limit the rise in global average temperature this century to 1.5 degrees Celsius above pre-industrial levels.” ³³ Shell made a similar statement in its <i>Annual Report and Accounts 2024</i> . ³⁴

37. Meanwhile, all Defendants except Woodside Energy Hawaii are investing in efforts to *expand* fossil fuel production and sales. Such expanded fossil fuel activities will necessarily cause additional greenhouse gas emissions when Defendants’ fossil fuel products are used. The following statements illustrate these investments:

Defendant	Statements
BP	In its February 2025 <i>Capital markets update</i> , BP asserted that “oil and gas will be needed for decades to come” and that the company is pursuing “opportunities” accordingly. ³⁵ BP described a “resetting [of] strategy” that involves “grow[ing] the upstream – our oil and gas business.” ³⁶
Chevron	In Chevron’s <i>2018 Annual Report</i> , the company promised that “[y]ear after year, we will: grow production and sustain margins.” ³⁷

³¹ ExxonMobil, *2021 Energy & Carbon Summary* at 4, 35.

³² Phillips 66, *2024 Sustainability and People*, at 48.

³³ Shell, *Sustainability Report 2022*, at 22.

³⁴ Shell, *Annual Report and Accounts 2024*, at 77.

³⁵ BP, *Capital markets update*, at 10 (Feb. 2025).

³⁶ *Id.* at 13.

³⁷ Chevron, *2018 Annual Report*, at vi.

Defendant	Statements
	In Chevron’s <i>2024 Annual Report</i> , the company proclaimed, “We aim to grow our oil and gas business.” ³⁸ Chevron estimated that its future capital expenditures for 2025 will total between \$14.5 to 15.5 billion annually, with only \$1.5 billion “dedicated to lowering the carbon intensity of our operations and growing new energies businesses.” ³⁹
ConocoPhillips	<p>In its 2024 SEC Form 10-K, ConocoPhillips represented, “Our reserve replacement was 244 percent in 2024.” “In the three years ended December 31, 2024, our reserve replacement was 183 percent.”⁴⁰ This means that ConocoPhillips was developing or acquiring new fossil fuel reserves for future extraction <i>faster than</i> it was depleting its reserves.</p> <p>ConocoPhillips also described its acquisition of Marathon Oil, which “adds high-quality, low cost of supply, development opportunities to [its] existing Lower 48 portfolio.”⁴¹ ConocoPhillips also reported \$355 million in fossil fuel exploration expenses in 2024.⁴²</p>
ExxonMobil	<p>In its <i>2024 Annual Report to Shareholders</i>, ExxonMobil remarked, “We completed the transformational Pioneer merger, strengthening the best Upstream portfolio in the industry. We produced 4.3 million oil-equivalent barrels per day, our highest rate in more than 10 years.”⁴³ ExxonMobil stated that in Guyana, a major fossil fuel source for the company, production is “still growing.”⁴⁴ ExxonMobil was “invest[ing] to meet growing demand.”⁴⁵</p> <p>In its <i>2024 Corporate Plan Update</i>, ExxonMobil disclosed that it plans to “Grow[] Upstream earnings ~\$9B” from 2024 to 2030, including by increasing production from 4.3 million oil-equivalent barrels per day to 5.4 million.⁴⁶</p>

³⁸ Chevron, *2024 Annual Report*, at inside cover.

³⁹ *Id.* at 40.

⁴⁰ ConocoPhillips, Form 10-K, at 36 (period ending Dec. 31, 2024).

⁴¹ *Id.* at 34.

⁴² *Id.* at 40.

⁴³ ExxonMobil, *2014 Annual Report to Shareholders*, at ii.

⁴⁴ *Id.* at iii.

⁴⁵ *Id.*

⁴⁶ ExxonMobil, *2024 Corporate Plan Update*, at 18.

Defendant	Statements
Marathon	In its 2024 <i>Annual Report</i> , Marathon reported significant capital investments at three refineries and envisioned “incremental growth” in its midstream business. ⁴⁷ The company described plans in its midstream business to “focus[] on growing its natural gas and natural gas liquids (NGL) businesses.” ⁴⁸
Phillips 66	In its 2024 SEC Form 10-K, Phillips 66 reported a major acquisition “to expand our natural gas gathering and processing operations in the Permian Basin,” as well as acquisitions of entities that own “long haul natural gas liquids pipelines, fractionation facilities and distribution systems.” ⁴⁹ Phillips 66 reported that it plans to “maintain[] emphasis on growing its Midstream . . . business.” ⁵⁰
Shell	Shell stated in its 2024 SEC Form 20-F that it expects “[g]rowing our integrated gas and [liquified natural gas] business” and “sustaining liquids production.” ⁵¹ Shell plans to “[g]row liquified natural gas (LNG) sales 4-5% per year through to 2030”; “[g]row Integrated Gas and Upstream total production by 1% per year to 2030”; and “[s]ustain liquids production of at least 1.4 million barrels per day through to 2030.” ⁵²
Sunoco	Sunoco’s 2024 SEC Form 10-K discloses major projects to expand crude oil storage and distribution. This includes a joint venture in the Permian Basin to “operate[] more than 5,000 miles of crude oil and water gathering pipelines with crude oil storage capacity in excess of 11 million barrels.” ⁵³ Sunoco also reports having acquired NuStar, which had “approximately 9,500 miles of pipeline and 63 terminal and storage facilities that store and distribute crude oil, refined products, renewable fuels, ammonia and specialty liquids.” ⁵⁴ Sunoco stated it intended this

⁴⁷ Marathon, 2024 *Annual Report*, at 2.

⁴⁸ *Id.* at 7.

⁴⁹ Phillips 66, Form 10-K, at 3 (period ending Dec. 31, 2024).

⁵⁰ *Id.* at 48.

⁵¹ Shell, Form 20-F, at 19 (period ending Dec. 31, 2024).

⁵² *Id.* at 20.

⁵³ Sunoco, Form 10-K, at 52 (period ending Dec. 31, 2024).

⁵⁴ *Id.*

Defendant	Statements
	acquisition to “increase scale and provide vertical integration” and “enhanc[e] growth.” ⁵⁵

38. As explained under Opinion 1, society must immediately and rapidly eliminate most uses of fossil fuels to achieve the temperature goals of the Paris Agreement. These Defendants’ investments to expand fossil fuel production and sales are completely at odds with the need to curb fossil fuel use. Therefore, BP’s, Chevron’s, ConocoPhillips’s, ExxonMobil’s, Phillips 66’s, and Shell’s expressions of support for the Paris Agreement’s goals are misleading at best, and untrue at worst.

39. This inconsistency is perhaps best illustrated by ExxonMobil. Although ExxonMobil’s *2020 Annual Report* stated that it had “established new plans that are projected to be consistent with the goals of the Paris Agreement,”⁵⁶ the company’s *Advancing Climate Solutions 2024* report stated that the company “do[es] not set Scope 3 targets,” meaning that ExxonMobil sets no targets for the emissions that are released when its fossil fuel products are used (combusted).⁵⁷ It is misleading, in my view, for ExxonMobil to assert that its plans are “consistent with the goals of the Paris Agreement,” even though it continues to expand its production and sale of fossil fuels.

40. In some of the Defendants’ reports that I cite above, Defendants state that they are taking actions to reduce greenhouse gas emissions from their own operations. Even if that is true, such actions do not mean that Defendants’ investments to expand fossil fuel production and sales

⁵⁵ *Id.*

⁵⁶ ExxonMobil, *2020 Annual Report*, at ii.

⁵⁷ ExxonMobil, *Advancing Climate Solutions 2024*, at 81.

are consistent with the Paris Agreement’s goals. That is because the overwhelming majority of emissions caused by Defendants’ fossil fuel products are released when consumers use (and combust) them. For example, ExxonMobil’s disclosures in its *Advancing Climate Solutions 2023* report show that the use of ExxonMobil’s fossil fuel products accounted for well over three-quarters of the emissions related to the company’s fossil fuel activities.⁵⁸ Other Defendants’ disclosures similarly show that the vast majority of the emissions related to Defendants’ fossil fuel activities are released when products are used.⁵⁹ So, even if all Defendants were to reduce emissions from their own operations to zero, Defendants’ expanded production and sale of fossil fuel products would continue to considerably worsen climate change as those products are burned.

41. In sum, it is misleading at best, and untrue at worst, for BP, Chevron, ConocoPhillips, ExxonMobil, Phillips 66, and Shell to assert that they support or are consistent with the goals of the Paris Agreement.

⁵⁸ ExxonMobil reported that its “Scope 1” and “Scope 2” emissions—which, roughly speaking, are the emissions associated with its operations (e.g., exploring, extracting, refining, transporting, distributing, and selling) and its energy purchases from third parties—were 82 Mt CO₂ equivalent (excluding ExxonMobil’s chemicals division). ExxonMobil estimated that the so-called “Scope 3” emissions resulting from the use of its fossil fuel products were somewhere between 530 and 690 Mt CO₂ equivalent, depending on the exact metric used. ExxonMobil, *Advancing Climate Solutions 2023*, at 90, 92.

⁵⁹ For example, ConocoPhillips disclosed in its *2023 Sustainability Report* that its Scope 1 emissions were 16.4 Mt CO₂ equivalent, its Scope 2 emissions were 1.0 Mt CO₂ equivalent, and its Scope 3 emissions from the “use of sold products” was 217.9 Mt CO₂ equivalent. ConocoPhillips, *2023 Sustainability Report*, at 33, 95–96. Wood Mackenzie, an energy consulting firm, estimated that Scope 3 emissions “are responsible for 80-95% of the total emissions along the value chain” for oil and gas companies. See Tom Ellacott, *How Will Oil and Gas Companies Get to Scope 3 Net Zero*, Wood MacKenzie (Oct. 27, 2022), <https://www.woodmac.com/news/opinion/how-will-oil-and-gas-companies-get-to-scope-3-net-zero/>.

VI. Opinion 3. Some Defendants have misleadingly suggested that their actions support or are consistent with “net zero” greenhouse gas emission goals.

42. Chevron, ConocoPhillips, and ExxonMobil have made a range of representations suggesting that they are taking actions to support, or become consistent with, “net zero” greenhouse gas emission goals. These representations are misleading because Defendants have defined “net zero” in ways that do not account for the greenhouse gas emissions that are released when their fossil fuel products are used (combusted).

43. The term “net zero” typically refers to an outcome where human activities balance out to result in zero greenhouse gas emissions in the aggregate. Under such an outcome, some activities may cause greenhouse gas emissions, as long as those emissions are balanced by other activities that remove an equal or greater amount of greenhouse gases from the atmosphere.

44. Particularly in the context of achieving the Paris Agreement’s goals (which Chevron, ConocoPhillips, and ExxonMobil all claim to support), the term “net zero” typically refers to the fact that *society-wide* emissions must be reduced to “net zero” over the coming decades to limit warming to 1.5° or 2°C.

45. Chevron, ConocoPhillips, and ExxonMobil have made a range of representations suggesting that they are taking actions to support, or become consistent with, “net zero” goals. However, these Defendants have defined “net zero” in ways that exclude the emissions that are released when their fossil fuel products are used. This is misleading because, as discussed, the overwhelming majority of emissions caused by Defendants’ fossil fuel products are released when consumers use (and combust) them. Because these Defendants are continuing to invest in the increased production and sale of fossil fuel products, their actions do not actually support “net zero” emission outcomes.

46. Examples of such claims include the following.

Defendants' Representations	Why Representations Are Misleading
<p><u>Chevron</u>'s 2024 SEC Form 10-K highlighted a "2050 Net Zero Upstream Aspiration." The company then stated, "Chevron aspires to achieve net zero for upstream production Scope 1 and 2 GHG emissions on an equity basis by 2050."⁶⁰</p>	<p>Chevron highlights a "Net Zero" "Aspiration." But Chevron defines that "Aspiration" in a manner that excludes the emissions that are released when Chevron's fossil fuel products are used.</p> <p>This is misleading because Chevron is making continued investments in expanded fossil fuel production and sales, and the use of Chevron's fossil fuel products will continue to cause greenhouse gas emissions, which would not support a "net zero" outcome for society consistent with the Paris Agreement.</p>
<p><u>ConocoPhillips</u> released a 2023 <i>Sustainability Report</i> including a prominent graph titled, "Pathway to Net-Zero."⁶¹ This graph does not account for emissions caused by the use of ConocoPhillips's products.</p> <p>Elsewhere in the report, ConocoPhillips represented, "In 2020, we adopted a climate-related risk framework with an ambition to reduce our operational greenhouse gas (GHG) emissions to net-zero by 2050."⁶²</p>	<p>ConocoPhillips's "Pathway to Net-Zero" graph and "operational" "net-zero" goals are defined in ways that do not account for the emissions released by the use of ConocoPhillips's products. This misleadingly exaggerates ConocoPhillips's progress toward, and commitment to, net-zero emissions outcomes, especially given ConocoPhillips's investments in expanded oil and gas production.</p>
<p><u>ExxonMobil</u>'s 2021 <i>Energy & Carbon Summary</i> stated, "ExxonMobil supports the aims of the 2015 Paris Agreement and efforts to achieve net-zero emissions."⁶³ ExxonMobil also stated, "ExxonMobil respects and supports society's ambition to achieve net-zero emissions by 2050."⁶⁴ In its 2024 <i>Advancing Climate Solutions</i> report, ExxonMobil asserted</p>	<p>ExxonMobil professes to support "society's ambition to achieve net-zero emissions." But ExxonMobil has defined its "net zero" goals to exclude the emissions that are released when ExxonMobil's products are used.</p> <p>These statements are misleading because pursuing a net-zero outcome for society</p>

⁶⁰ Chevron, SEC Form 10-K, at 27 (period ending Dec. 31, 2024).

⁶¹ ConocoPhillips, 2023 *Sustainability Report*, at 24.

⁶² *Id.* at 23.

⁶³ ExxonMobil, 2021 *Energy & Carbon Summary*, at 4.

⁶⁴ *Id.* at 35.

Defendants' Representations	Why Representations Are Misleading
that it is pursuing a “2050 net-zero ambition.” ⁶⁵	requires sharply reducing the emissions associated with the use of fossil fuel products.

47. Put simply, Chevron, ConocoPhillips, and ExxonMobil have touted their supposed support of “net zero” (alongside their supposed support of the Paris Agreement’s goals). In reality, Chevron, ConocoPhillips, and ExxonMobil are investing in expanded fossil fuel production, which is far from supporting a “net zero” outcome.

VII. Conclusion

48. My analysis underscores how most of the Defendants have used misleading messages to describe their responses to global warming. These misleading messages obscure that these Defendants are continuing to invest in expanded fossil fuel production and sales in a manner that is—as a matter of climate science—inconsistent with the Paris Agreement’s goals.

I, Raymond Stuart Bradley, do declare under penalty of law that the foregoing is true and correct.

Dated: May 2, 2025
Amherst, Massachusetts

Raymond S. Bradley

⁶⁵ ExxonMobil, *Advancing Climate Solutions 2024*, at 2.

IN THE CIRCUIT COURT OF THE FIRST CIRCUIT
STATE OF HAWAII

CITY AND COUNTY OF HONOLULU and
HONOLULU BOARD OF WATER
SUPPLY,

Plaintiffs,

vs.

SUNOCO LP; ALOHA PETROLEUM,
LTD.; ALOHA PETROLEUM LLC; EXXON
MOBIL CORP.; EXXONMOBIL OIL
CORPORATION; ROYAL DUTCH SHELL
PLC; SHELL OIL COMPANY; SHELL OIL
PRODUCTS COMPANY LLC; CHEVRON
CORP.; CHEVRON USA INC.; BHP GROUP
LIMITED; BHP GROUP PLC; BHP
HAWAII INC.; BP PLC; BP AMERICA
INC.; MARATHON PETROLEUM CORP.;
CONOCOPHILLIPS; CONOCOPHILLIPS
COMPANY; PHILLIPS 66; PHILLIPS 66
COMPANY; AND DOES 1 through 100,
inclusive,

Defendants.

CIVIL NO. 1CCV-20-0000380 (LWC)

(Other Non-Vehicle Tort)

**DECLARATION OF MELISSA
ARONCZYK, PH.D.**

**DECLARATION OF MELISSA ARONCZYK, Ph.D. IN SUPPORT OF PLAINTIFF'S
OPPOSITION TO DEFENDANT'S MOTION FOR SUMMARY JUDGMENT BASED
ON THE STATUTE OF LIMITATIONS**

I, Melissa Aronczyk, declare as follows:

It is my opinion that greenwashing is a longstanding deceptive practice employed by corporate firms to avoid accountability for their role in contributing to dangerous levels of greenhouse gas emissions that worsen climate change. This opinion is supported by my research, my experience and by the academic peer-reviewed literature on the subject cited herein.

Greenwashing is defined as misleading communications and practices that give rise to false positive perceptions of an organization's environmental performance, including around climate change mitigation. For decades, researchers have documented inauthentic and deceptive claims about environmental performance by corporate firms in coordination with their trade associations and their public relations teams. In my opinion, and based on my own research and that of other scholarly researchers, there are criteria to identify greenwashing so that the public and policy makers recognize and avoid the risks associated with products and services that do not live up to their producers' environmental claims. These criteria include (but are not limited to) (i) **the misalignment of a claim and an action**, as when an oil company promotes its commitment to achieve "net-zero" greenhouse gas emissions while expanding its production of fossil fuels; (ii) **selective disclosure**, such as the withholding of key information needed to understand the claim being made; (iii) **non-credible claims**, as found in advertisements promoting ineffective or future-oriented (and therefore untested and uncertain) solutions to climate change effects; and (iv) **the displacement of responsibility** for environmental harm or redress, as when a firm shifts the onus for minimizing the effects of global warming away from itself and onto consumers, states, citizens or society. The expert opinions expressed in this report

are my own and are based on my research experience and supported by academic peer-reviewed studies.

1. Summary of Opinions

- Section 2 of this declaration outlines my qualifications.
- Section 3 of this declaration defines greenwashing with reference to academic peer-reviewed literature.
- Section 4 of this declaration provides a foundation for identifying greenwashing via evaluation tools and frameworks from academic literature and monitoring organizations, and reviews prominent forms and examples of greenwashing among major fossil fuel companies.
- Section 5 of this declaration reviews research that demonstrates the longstanding and coordinated efforts of fossil fuel companies' greenwashing.
- Section 6 of this declaration describes the role of public relations firms in greenwashing.

2. Qualifications

I am a full professor in the School of Communication and Information at Rutgers University in New Jersey. I am the co-author, with Maria Espinoza, of the award-winning *A Strategic Nature: Public Relations and the Politics of American Environmentalism* (Oxford University Press, 2022), and the author of multiple peer-reviewed publications and public presentations on the subject of environmental communication, corporate promotional campaigns, and greenwashing. I am a member and immediate past chair of the Climate Social Science Network's Working Group on Greenwashing, which developed the first Greenwashing Assessment Framework for

academic, public and practitioner use.¹ I am an expert consultant for the Institute for Advertising Ethics,² where I assisted in the development of greenwashing guidelines for the Institute's members. In 2023, I was an invited speaker at the National Academies of Science to contribute to their consensus study on Understanding and Addressing Misinformation about Science; I also served as peer reviewer for the study's final report.³ Currently, I am a member of the Scientific Panel on Information Integrity about Climate Science, hosted by the International Panel on the Information Environment (IPIE).⁴ I am also a Research Associate with the Canadian climate communication organization, Re.Climate.⁵ I have provided testimony before the Subcommittee on Oversight and Investigations of the U.S. House of Representatives, Committee on Natural Resources, on "The Role of Public Relations Firms in Preventing Action on Climate Change."⁶

3. Defining Greenwashing

Greenwashing has been examined in a number of academic disciplines as well as by government and nongovernmental organizations. Research contributing to its conceptualization and understanding comes from the fields of business (including advertising, ethics, and marketing), media and communications, environmental studies and management, engineering, law, and the

¹ N. Nemes et al., An Integrated Framework to Assess Greenwashing, *Sustainability* 14.8 (2022). doi:10.3390/su14084431.

² Institute for Advertising Ethics. <https://www.iaethics.org/>

³ Understanding and Addressing Misinformation about Science. A Consensus Report. National Academies of Science, 2025. <https://nap.nationalacademies.org/catalog/27894/understanding-and-addressing-misinformation-about-science>

⁴ International Panel on the Information Environment. <https://www.ipie.info/panels/scientific-panel-on-information-integrity-about-climate-science/>

⁵ Re.Climate Communication Centre. <https://reclimate.ca/about-us/>

⁶ The Role of Public Relations Firms In Preventing Action on Climate Change, Oversight and Investigations Subcommittee Hearing, U.S. House of Representatives, 14 September 2022. www.youtube.com/watch?v=pUvGjHTZ5yc&t=1s/

social sciences, among other fields.⁷ In this declaration, I limit my remarks to climate-related greenwashing.

Academic and practitioner approaches to address climate-related greenwashing employ various terminologies, including “climate misinformation” or “disinformation”⁸; climate “obstruction” or “delay”⁹; fossil fuel “hegemony”¹⁰; “climate-washing”¹¹; “climate contrarianism”¹²; and “climate skepticism” or “doubt.”¹³ Despite this variation in terms, it is my opinion that greenwashing typically includes three core elements:

1. The dissemination of misleading or deceptive information (including images or other styles of communication) regarding an organization’s climate-related goals, motivations, and actions;
2. a disparity between the portrayal of an organization’s actions to combat climate change and the organization’s actual practices; and
3. the absence of accuracy, transparency, or accountability in climate-related claims by the organization.

⁷ See N. Nemes et al. (op. cit.) for a list of prominent greenwashing definitions.

⁸ K. Treen, H. Williams, & S. O’Neill, Online Misinformation about Climate Change, *WIREs Climate Change* 11 (2020). doi: 10.1002/wcc.665

⁹ F. Harvey, ‘Massive Disinformation Campaign’ is Slowing Global Transition to Green Energy. *The Guardian*, 8 August 2024. <https://amp.theguardian.com/environment/article/2024/aug/08/fossil-fuel-industry-using-disinformation-campaign-to-slow-green-transition-says-un>

¹⁰ C. Wright, D. Nyberg & V. Bowden, Beyond the Discourse of Denial: The Reproduction of Fossil Fuel Hegemony in Australia, *Energy Research & Social Science* 77 (2021). <https://doi.org/10.1016/j.erss.2021.102094>

¹¹ L. Rogerson, Majority of Climate-Washing Litigation Succeeds in Producing Positive Outcomes But Prompts Companies to Proceed Cautiously. *Thomson Reuters*, 19 July 2024. <https://www.thomsonreuters.com/en-us/posts/esg/climate-washing-litigation/>

¹² J. Farrell, Network Structure and Influence of the Climate Change Counter-Movement, *Nature Climate Change* 6 (2016): 370–374.

¹³ N. Oreskes & E. M. Conway, *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming*, Bloomsbury Publishing, 2011; S. J. O’Neill & M. Boykoff, *Climate Denier, Skeptic, or Contrarian?* Proceedings of the National Academy of Sciences of the United States of America, 107.39 (2010), E151.

It is my opinion, based on evidence from peer-reviewed literature and independent agencies, that information about an organization's sustainable, "green" or climate commitments can confuse and mislead consumers. The U.S. Federal Trade Commission's Green Guides "are designed to help marketers avoid making environmental claims that mislead consumers" because often "what companies think their green claims mean and what consumers really understand are two different things."¹⁴

Several kinds of claims in multiple sectors can be considered greenwashing and are subject to formal complaint. In general, a "claim" can take the form of verbal or written statements, pictures, reports, and advertisements; but also collective aspirations by stakeholder groups; pledges; codes of conduct that elaborate specific production or sourcing practices; and sectoral standards including principles, criteria and forms of verification agreed upon by multiple stakeholders within a sector.

Summarizing the full spectrum of academic, non-academic and practitioner literature, the working definition currently adopted by Nemes et al. (2022), which has been accessed over 48,000 times¹⁵ and cited in 163 different publications,¹⁶ is that greenwashing is "an umbrella term for a variety of misleading communications and practices that, intentionally or not, induce false positive perceptions of an organization's environmental performance." As this declaration is focused on climate-related greenwashing specifically, the following sections of this declaration refer to greenwashing as misleading or deceptive communications and practices that induce false positive perceptions of fossil fuel companies' efforts to address and mitigate climate change.

¹⁴ Green Guides, Federal Trade Commission. <https://www.ftc.gov/news-events/topics/truth-advertising/green-guides>

¹⁵ N. Nemes et al. (op. cit.) Article Metrics. <https://www.mdpi.com/2071-1050/14/8/4431#metrics> (as of 1 May 2025)

¹⁶ N. Nemes et al., (op. cit.) Google Scholar. https://scholar.google.com/scholar?cites=13627320767782723535&as_sdt=2005&scioldt=0,5&hl=en (as of 1 May 2025)

Within the climate arena, the increased attention in recent years by scholars, legislators, and regulators to greenwashing reflects two key developments: (1) increasingly stringent rules and targets for greenhouse gas emission reductions, put forth by international bodies and national and subnational governments informed by climate science organizations; and (2) the growth in volume, scope, and potential impact of greenwashing claims themselves.¹⁷ In the aftermath of the legally binding international treaty known as the 2015 Paris Agreement¹⁸ and its commitments to climate change mitigation, adaptation, and finance, regulatory bodies at the municipal, state, federal and intergovernmental level have demanded increased accountability from the oil and gas sector for their role in contributing to greenhouse gas emissions. As explained below, the sector's claims to environmental and climate protection in response to this renewed scrutiny have far outpaced its actions and investments.

4. Identifying and Evaluating Greenwashing

Various evaluation tools and frameworks from both academic literature and monitoring organizations provide a foundation for identifying criteria that constitute greenwashing.¹⁹ In the next section I review four major indicators of greenwashing drawn from research studies to assess the presence of greenwashing, and demonstrate examples of these greenwashing indicators in public-facing claims by fossil fuel supermajors. The four indicators are:

¹⁷ Y. Si, D. Desai, D. Bozhilova, S. Puffer, & J. Stephens, Fossil Fuel Companies' Climate Communication Strategies: Industry Messaging on Renewables and Natural Gas, *Energy Research & Social Science* 98 (2023). <https://doi.org/10.1016/j.erss.2023.103028>

¹⁸ United Nations, Paris Agreement. <https://unfccc.int/process-and-meetings/the-paris-agreement>

¹⁹ E.g., T. Lyon & A. W. Montgomery, The Means and End of Greenwash, *Organization & Environment* 28.2 (2015) 223-249. doi: 10.1177/1086026615575332; L. Gatti, P. Seele, & L. Rademacher, Grey Zone in—Greenwash Out: A Review of Greenwashing Research and Implications for the Voluntary-Mandatory Transition of CSR. *International Journal of Corporate Social Responsibility* 4 (2019): 1–15. doi: 10.1186/s40991-019-0044-9; S. V. De Freitas Netto, M. F. Facao Sobr  l, A. R. Bezerra Riberio, & G. R. da Luz Soares, Concepts and Forms of Greenwashing: A Systematic Review, *Environmental Sciences Europe* 32 (2020): 1–12. doi: 10.1186/s12302-020-0300-3

4.1 Misalignment of claim and action

4.2 Selective disclosure

4.3 Non-credible claims

4.4 Displacement of responsibility

It is my expert opinion that when Defendants make claims about their environmental commitments, or pledge to address climate change, those claims and pledges may amount to greenwashing if they correspond to any of the indicators listed above.

4.1. Misalignment of Claim and Action

4.1.1 Definition

Misalignment of a claim and an action occurs when there is “a contradicting product/policy/practice within the same organization that makes a claim.”²⁰ An example of misalignment is when fossil fuel companies claim that “they have and are following a transparent and concrete plan for reducing emissions and/or achieving net-zero while...continuing to expand production” of fossil fuels.²¹

Indeed, following the 2015 Paris Agreement, corporate firms’ promises to reduce emissions for climate protection have grown immensely, far outpacing measurable changes and raising questions of net-zero greenwashing. Developed by scientists to map emissions reduction pathways to global temperature goals, “net zero” refers to negating greenhouse gas (GHG) emissions produced by humans through the sequestration or removal of excess emissions.²² The

²⁰ See N. Nemes et al. (op. cit.); see also M. Li et al. (op. cit.).

²¹ D. Awad, False or Misleading Claims in Big Oil. *Dentons Canada Regulatory Review*, 13 June 2023. <https://www.canadaregulatoryreview.com/false-or-misleading-claims-in-big-oil-risk-on-both-sides-of-the-coin/>

²² J. F. Green, R. S. Reyes, The History of Net Zero: Can We Move from Concepts to Practice? *Clim. Pol.* (2023) 1–15, <https://doi.org/10.1080/14693062.2023.2218334>

idea behind the concept was formalized in Article 4 of the Paris Agreement.²³ Green and Reyes call net zero a “new organizing principle of climate politics,” but note the proliferation of net zero pledges covering the vast majority of global carbon emissions “are inconsistent with actual behavior or use narrow definitions of the concept to their advantage.”²⁴

One way that fossil fuel companies have sought to use the concept of net zero to their advantage is through vague and unverifiable promises that remain unrealized in practice. A wide range of terms and claims are used by fossil fuel companies in addition to “net zero”, such as “carbon negative” or “climate positive”²⁵; or that they seek to achieve “net negative” emissions or “deep decarbonisation”²⁶; or that they plan to become “emissions-free” or reach “zero emissions”; or that they are committed to a “1.5-degree Celsius pathway.”

Most “net zero” targets involve vague plans with loopholes that allow emissions to continue rising, often for decades, based on the assumption that in the future, new (risky, unproven and harmful) technologies will be able to remove carbon dioxide (CO₂) from the atmosphere and compensate for or “zero out” those emissions.”²⁷ There is much less consumer knowledge about these various terms related to carbon neutrality and net zero than about environmental issues in general, making it easier to confuse the average consumer who may

²³ M.R. Allen, P. Friedlingstein, C.A.J. Girardin, S. Jenkins, Y. Malhi, E. Mitchell- Larson, et al., Net Zero: Science, Origins, and Implications, *Annu. Rev. Environ. Resour.* 37 (2022) 849–887, <https://doi.org/10.1146/annurev-environ-112320-105050>.

²⁴ Green & Reyes (op cit.).

²⁵ “Observers are highly likely to interpret the terminology climate positive to mean that unabated emissions have been neutralised.” Corporate Climate Responsibility Monitor 2023.

<https://newclimate.org/resources/publications/corporate-climate-responsibility-monitor-2023>

²⁶ Shell, The Energy Transformation Scenarios, 2021. [https://www.shell.com/news-and-insights/scenarios/what-are-the-previous-shell-](https://www.shell.com/news-and-insights/scenarios/what-are-the-previous-shell-scenarios/_jcr_content/root/main/section_1789847828/promo_copy_142460259/links/item0.stream/1652119830834/fba2959d9759c5ae806a03acfb187f1c33409a91/energy-transformation-scenarios.pdf)

[scenarios/_jcr_content/root/main/section_1789847828/promo_copy_142460259/links/item0.stream/1652119830834/fba2959d9759c5ae806a03acfb187f1c33409a91/energy-transformation-scenarios.pdf](https://www.shell.com/news-and-insights/scenarios/what-are-the-previous-shell-scenarios/_jcr_content/root/main/section_1789847828/promo_copy_142460259/links/item0.stream/1652119830834/fba2959d9759c5ae806a03acfb187f1c33409a91/energy-transformation-scenarios.pdf)

²⁷ Demand Climate Justice, Not Zero: How ‘Net Zero’ Targets Disguise Climate Inaction. October, 2020.

https://demandclimatejustice.org/wp-content/uploads/2020/10/NOT_ZERO_How_net_zero_targets_disguise_climate_inaction_FINAL.pdf

interpret the carbon claims incorrectly.”²⁸ Unsubstantiated claims contradict the standards set by the United Nations High-Level Expert Group on the Net-Zero Emissions Commitments of Non-State Entities: “Non-state actors...must align their advocacy, as well as their governance and business strategies with their climate commitments.”²⁹

Sustainable finance researchers Soh Young In and Kim Schumacher note that carbon reduction efforts are frequently misrepresented in reporting frameworks, including financial reporting, because of the “high incentives for firms to publicly highlight their climate mitigation activities or ambitions as more progressive than they actually are. For example, firms generally experience improvements in stock price valuation in response to green bond issuance.”³⁰ Firms therefore realize concrete gains through misrepresentation of their “green” commitments. In my expert opinion, firms that misrepresent their “green” commitments may be considered to engage in greenwashing.

4.1.2 Green Claims vs. Increased Oil and Gas Production

A 2022 analysis of public communications, business operations and policy engagement by the “supermajor” oil companies³¹ found that “in contrast to the predominance of ‘green claims,’ only 12% of the five companies’ 2022 capital expenditure (CAPEX) is forecasted to be dedicated to

²⁸ Polonsky, M., Grau, S.L. & Garma, R. The New Greenwash? Potential Marketing Problems with Carbon Offsets. *International Journal of Business Studies* 18.1 (2010): 49-54.

²⁹ United Nations High-Level Expert Group on the Net Zero Climate Commitments of Non-State Entities, Integrity Matters: Net Zero Commitments by Businesses, Financial Institutions, Cities and Regions, 2022. https://www.un.org/sites/un2.un.org/files/high-level_expert_group_n7b.pdf

³⁰ S. Y. In and K. Schumacher, Carbonwashing: ESG Data Greenwashing in a Post-Paris World. Pp. 39-58 in *Settling Climate Accounts: Navigating the Road to Net Zero*, eds. T. Heller and A. Seiger, Palgrave, 2022. See also S. Y. In and K. Schumacher, Carbonwashing: A New Type of Carbon Data-related ESG Greenwashing, Working Paper, Stanford Sustainable Finance Initiative, July 2021. Flammer defines green bonds as “bonds whose proceeds are committed to the financing of low-carbon, climate-friendly projects.” C. Flammer, Green Bonds: Effectiveness and Implications for Public Policy, *Environmental and Energy Policy and the Economy* 1 (2020). https://www.journals.uchicago.edu/doi/10.1086/706794#_i42

³¹ Shell, BP, TotalEnergies, Chevron, and ExxonMobil.

‘low carbon’ activities, while several of the companies’ oil and gas production appear set to increase up to 2026 from a 2021 baseline.”³² Another 2022 study by environmental researchers Li et al. found “a mismatch between discourse, actions and investments” in the clean energy claims of BP, Chevron, ExxonMobil and Shell. Analyzing data collected from 2009 to 2020, the researchers found that despite “a strong increase in discourse related to ‘climate,’ ‘low-carbon’ and ‘transition,’ especially by BP and Shell” as well as “increasing tendencies toward strategies related to decarbonization and clean energy,” there was little concrete action to support the pledges. In their financial analysis, the researchers concluded that the oil majors maintain a business model dependent on fossil fuels “along with insignificant and opaque spending on clean energy.”³³

In my expert opinion, based on these research findings, Defendants have made and continue to make “green” claims while also continuing to invest in fossil fuel production, which is considered greenwashing.

4.1.3 Net Zero Claims as Forward-Looking Statements

Fossil fuel company pledges to reach net-zero emissions typically revolve around promises of future achievement in emissions reductions (i.e., “net zero by 2050”). While pledges to reach net zero by 2050 technically conform to the injunctions of the Paris Agreement, they allow claimants to project positive values without corresponding action. It is very common for fossil fuel

³² InfluenceMap, Big Oil’s Real Agenda on Climate Change: An Analysis of Oil and Gas Supermajors’ Public Communications, Business Operations, and Policy Engagement on Climate, Sept 2022. <https://influencemap.org/report/How-Big-Oil-Continues-to-Oppose-the-Paris-Agreement-38212275958aa21196dae3b76220bdc>

See also M. Aronczyk, P. McCurdy, & C. Russill, Greenwashing, Net Zero, and the Oil Sands in Canada: The Case of Pathways Alliance, *Energy Research & Social Science* 112 (2024), doi: 10.1016/j.erss.2024.103502. Note that the 12% figure is likely an overestimate of the companies’ low-carbon activities, because it is based on self-reporting that may contain natural gas expenditures.

³³ Li et al. (op cit.)

companies to discount their public statements about emissions reductions by treating them as “forward-looking statements.”³⁴ According to the U.S. Private Securities Litigation Reform Act of 1995, forward-looking statements are “statements of future expectations that are based on management’s current expectations and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in these statements.” Such risks and uncertainties can include multiple factors relating to market risks, political risks, regulatory measures, and “the pace of the energy transition.”

For example: Figures 1-4 below portray the “Climate” homepage of the Shell Ltd. website (www.shell.com).³⁵ The first three images contain statements including, “Our target is to become a net-zero emissions energy business by 2050” (Figure 1). “Our target to become a net-zero emissions energy business by 2050 is transforming our operations and energy products. We believe this target supports the more ambitious goal of the Paris Agreement, to limit the rise in the global average temperature this century to 1.5°C above pre-industrial levels” (Figure 2). “Scope 1 and 2 emissions were down by 30% compared with the 2016 reference year^[C]. By the end of 2024, we had achieved 60% of the reduction required to halve emissions from our operations (Scopes 1 and 2) by 2030, compared with 2016” (Figure 3). The fourth image contains the label, Cautionary Note (Figure 4). The text of the Cautionary Note contains the following statement:

³⁴ The U.S. Private Securities Litigation Reform Act of 1995 (PSLRA).

³⁵ “Climate.” Shell Ltd. Website. <https://www.shell.com/sustainability/climate.html#vanity-aHR0cHM6Ly93d3cuc2h1bGwuY29tL2VuZXJneS1hbmQtaW5ub3ZhdGlvbi90aGUtZW5lcmd5LWZ1dHVyZS9vdXIY2xpbWF0ZS10YXJnZXQuaHRtbA>

Forward-looking statements: There are a number of factors that could affect the future operations of Shell and could cause those results to differ materially from those expressed in the forward-looking statements included in this content, including (without limitation): (a) price fluctuations in crude oil and natural gas; (b) changes in demand for Shell's products; (c) currency fluctuations; (d) drilling and production results; (e) reserves estimates; (f) loss of market share and industry competition; (g) environmental and physical risks, including climate change; (h) risks associated with the identification of suitable potential acquisition properties and targets, and successful negotiation and completion of such transactions; (i) the risk of doing business in developing countries and countries subject to international sanctions; (j) legislative, judicial, fiscal and regulatory developments including tariffs and regulatory measures addressing climate change; (k) economic and financial market conditions in various countries and regions; (l) political risks, including the risks of expropriation and renegotiation of the terms of contracts with governmental entities, delays or advancements in the approval of projects and delays in the reimbursement for shared costs; (m) risks associated with the impact of pandemics, regional conflicts, such as the Russia-Ukraine war and the conflict in the Middle East, and a significant cyber security, data privacy or IT incident; (n) the pace of the energy transition; and (o) changes in trading conditions... **Shell's net-zero emissions target:** ...Shell's operating plan and outlook cannot reflect our 2050 net-zero emissions target, as this target is outside our planning period. Such future operating plans and outlooks could include changes to our portfolio, efficiency improvements and the use of carbon capture and storage and carbon credits. In the future, as society moves towards net-zero emissions, we expect Shell's operating plans and outlooks to reflect this movement. However, if society is not net zero in 2050, as of today, there would be significant risk that Shell may not meet this target.³⁶

³⁶ Ibid.

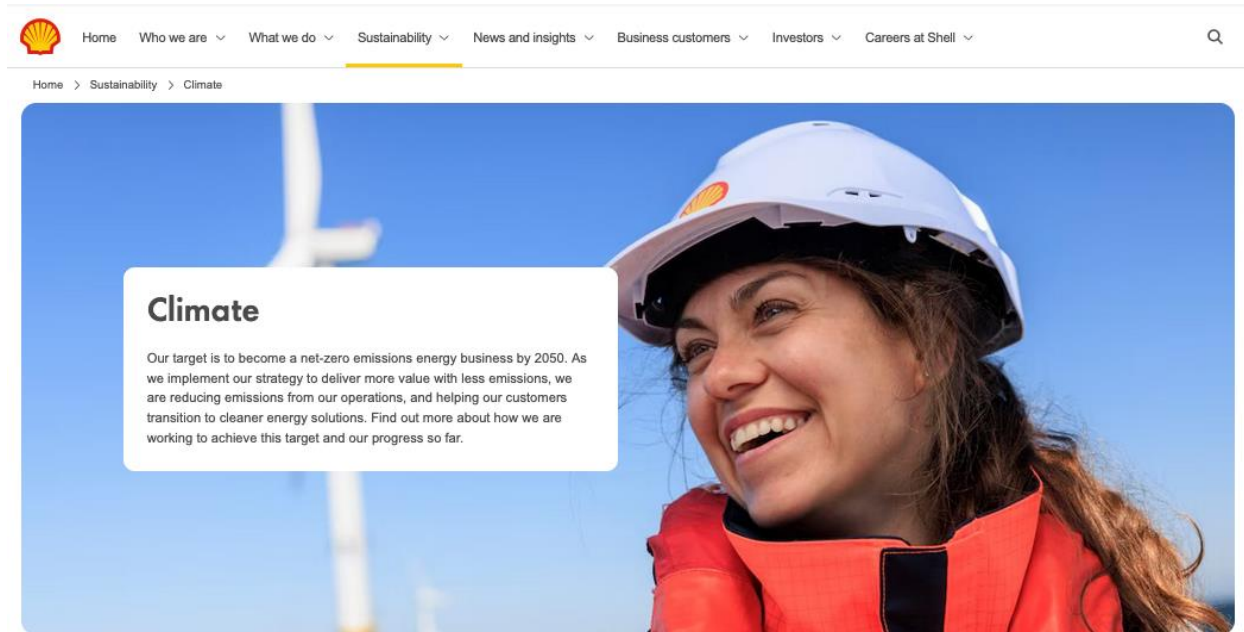


Figure 1. “Climate” homepage, www.shell.com (top quarter of page)

Our targets and ambition

Our target to become a net-zero emissions energy business by 2050 is transforming our operations and energy products. We believe this target supports the more ambitious goal of the Paris Agreement, to limit the rise in the global average temperature this century to 1.5°C above pre-industrial levels.

Our net-zero target includes emissions from our operations, as well as from the end-use of all the energy products we sell. The metrics we use to track progress against our energy transition targets and ambition include:

- Halving Scope 1 and 2 emissions under our operational control by 2030, on a net basis, compared with 2016. Scope 1 emissions come directly from our operations, and Scope 2 from the energy we buy to run our operations.
- Maintaining methane emissions intensity for operated oil and gas assets below 0.2% and achieve near-zero methane emissions intensity by 2030.
- Reducing the net carbon intensity (NCI) of the products we sell by 15-20% by 2030. NCI measures emissions associated with each unit of energy we sell^[A]. It reflects changes in sales of oil and gas products, and changes in sales of low- and zero-carbon products - such as biofuels and renewable electricity. Reducing the NCI of the products we sell requires action by both Shell and our customers, with the support of governments and policymakers to create the right conditions for change.

We also have an ambition to reduce customer emissions from the use of our oil products by 15-20% by 2030, Scope 3 Category 11 (2021 baseline).^[B]




Figure 2. “Climate” homepage, www.shell.com (second quarter of page)

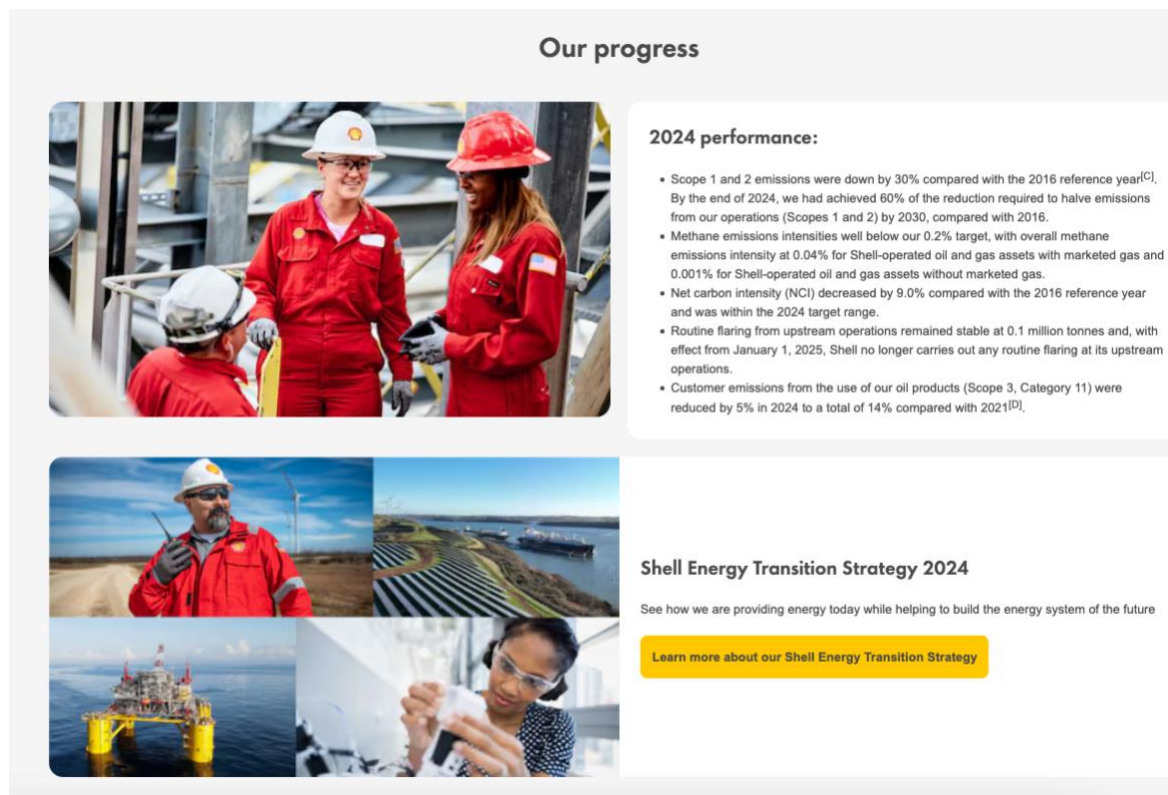


Figure 3. “Climate” homepage, www.shell.com (third quarter of page)

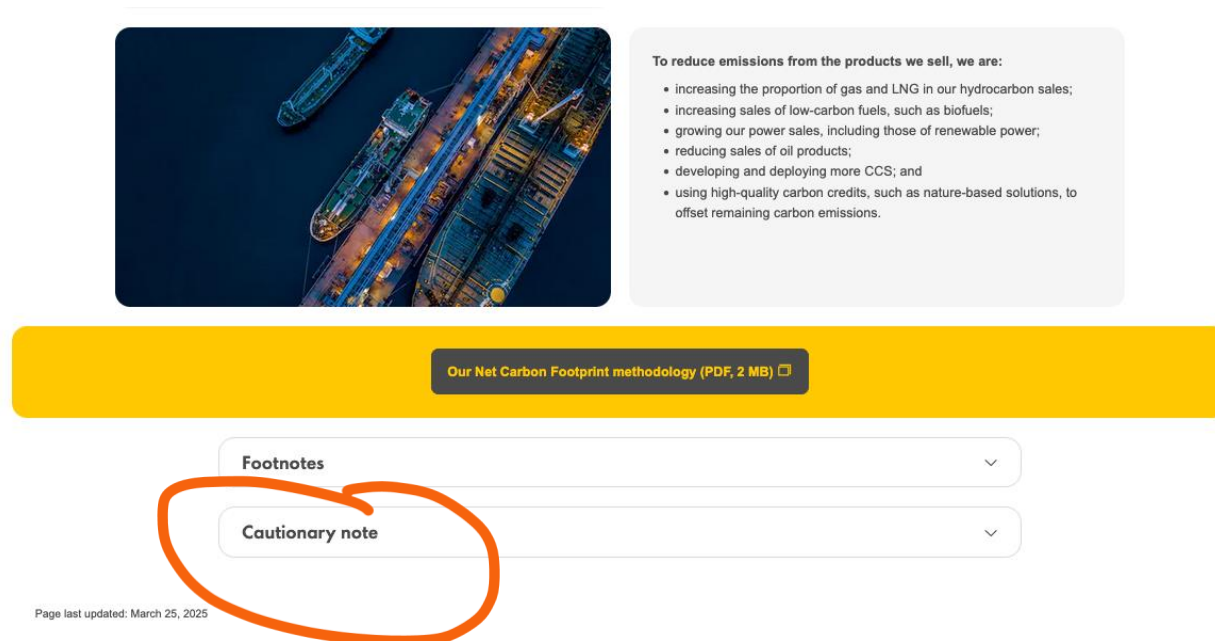


Figure 4. “Climate” homepage, www.shell.com (bottom quarter of page)



Figure 5. “Climate” homepage, www.shell.com (full webpage)

As should be evident from these five figures, it is highly unlikely that consumers will read, much less understand, the text in the Cautionary Note. Moreover, it is clear that the qualifiers in the Cautionary Note strongly discount the meaning of Shell’s statements regarding their commitment to reaching net zero. By (mis)characterizing their promotional, consumer-facing messaging as “forward-looking statements,” Shell is seeking a “safe harbor” from liability in the likely event that their net-zero claims are inconsistent with the outcomes.

The mismatch between Shell’s claims (e.g., “Our target is to become a net-zero emissions energy business by 2050”) and its actions were further established during a 2021–2022 investigation by the U.S. House Committee on Oversight and Reform into fossil fuel industry greenwashing, when internal documents obtained under subpoena revealed that Shell managers cautioned employees to temper all public statements related to net-zero claims:

Please do not imply, suggest, or leave it open for possible misinterpretation that NZE [net-zero emissions] is a Shell goal or target. While we seek to enhance our operations' average energy intensity through both the development of new projects and divestments, Shell has no immediate plans to move to a net-zero emissions portfolio over our investment horizon of 10-20 years.³⁷

The Oil and Gas Climate Initiative, or OGCI, is an industry-led coalition that promotes ambitious steps by their members to reduce greenhouse gas emissions. The subpoenaed documents show that Exxon and Chevron tried to influence this group to “remove language that potentially

³⁷ Released 15 September 2022. Documents archived at: <https://web.archive.org/web/20230923190650/https://oversightdemocrats.house.gov/sites/democrats.oversight.house.gov/files/2022/FossilFuelDocumentsForRelease.pdf>

commits members to enhanced climate-related governance, strategy, risk management, and performance metrics and targets” and to avoid any “explicit commitment for OGC companies to align their advocacy with their climate related positions”—including advocacy for the Paris Agreement.³⁸

In my expert opinion, when Defendants make claims or pledges, as exemplified in section 4.1 above, that are misaligned or inconsistent with their actions, they are engaging in greenwashing.

4.2. Selective Disclosure

4.2.1 Definition

Selective disclosure occurs when a “claim is based on a narrow set of attributes”³⁹ and/or is “missing the necessary information to evaluate its validity.”⁴⁰ Business scholars Marquis et al. define selective disclosure as “a symbolic strategy whereby firms seek to gain or maintain legitimacy by disproportionately revealing beneficial or relatively benign performance indicators to obscure their less impressive overall performance.”⁴¹ Selective disclosure can include withholding information on emissions, such as omitting total annual emissions or failing to account for indirect emissions in relevant reporting documents. Net-zero claims by fossil fuel companies are particularly susceptible to inadequate reporting. According to the United Nations, net-zero reporting should “cover all scope emissions and all operations along its value chain in

³⁸ See House Committee on Oversight and Accountability Democrats and Senate Committee on the Budget, Denial, Disinformation, and Doublespeak: Big Oil’s Evolving Efforts to Avoid Accountability for Climate Change, Joint Staff Report, April 2024. https://www.budget.senate.gov/imo/media/doc/fossil_fuel_report1.pdf

³⁹ Nemes et al. (op cit.).

⁴⁰ De Freitas Netto et al. (op cit.).

⁴¹ C. Marquis, M. W. Toeffel, & Y. Zhou, Scrutiny, Norms, and Selective Disclosure: A Global Study of Greenwashing, *Organization Science* 27.2 (2016). doi: 10.1287/orsc.2015.1039

all jurisdictions (any omission needs to be properly reported).”⁴²

Both mainstream news coverage and academic studies report that “net zero increasingly involves highly questionable carbon accounting.”⁴³ In and Schumacher find that carbon accounting is rife with ambiguities due to the lack of formally accepted standards for measurement: “The latitude in measurement and evaluation of carbon performance leaves room for firms to overstate or present misleading accounts on their capabilities and carbon-use reduction efforts.”⁴⁴ They cite additional studies showing that most “voluntary regimes” – i.e., industry-led reporting of carbon emissions as opposed to formally established reporting standards – do not require firms to report Scope 3 emissions. “Scope 3 emissions” refer to indirect emissions that take place throughout the supply chain involved in fossil fuel production. The World Resources Institute categorizes Scope 3 emissions into 15 upstream (pre-production) and downstream (post-production) categories.⁴⁵ Examples of upstream emissions include those from capital goods, such as the buildings and materials developed to produce fossil fuels; or those from waste created in day-to-day operations. Examples of downstream emissions include those emitted by trucks to transport a company’s fossil fuels, or by employees’ vehicles during their commute to work. Scholars Hertwich and Wood have shown that “when evaluating specific measures or technologies to reduce greenhouse gas (GHG) emissions, the most effective action should consider the potential to address both direct or indirect emissions.”⁴⁶ Yet a 2013 study of the Scope 3 carbon emissions disclosed by several of the largest firms in the United States to the

⁴² United Nations, Integrity Matters Report (op cit.).

⁴³ S. Lewis, The Climate Crisis Can’t Be Solved by Carbon Accounting Tricks. *The Guardian*, 3 March 2021. <https://www.theguardian.com/commentisfree/2021/mar/03/climate-crisis-carbon-accounting-tricks-big-finance>

⁴⁴ In & Schumacher (op. cit.)

⁴⁵ Environmental Protection Agency, Scope 3 Inventory Guidance. Accessed 1 May 2025. <https://www.epa.gov/climateleadership/scope-3-inventory-guidance>

⁴⁶ E. Hertwich, R. Wood. The Growing Importance of Scope 3 Greenhouse Gas Emissions from Industry. *Environ Res Lett.* 2018; 13:104013. <https://doi.org/10.1088/1748-9326/aae19a>

global nonprofit CDP (formerly the Carbon Disclosure Project) found that even those firms that did report Scope 3 only accounted for about 22% of their full Scope 3 emissions.”⁴⁷

Other forms of selective disclosure occur when a fossil fuel company relies on carbon offsetting rather than reducing its own emissions.⁴⁸ Carbon offsets and carbon credits are tradable “rights” that are “linked to activities that lower the amount of carbon dioxide (CO₂) in the atmosphere.”⁴⁹ Such activities are marked by a lack of transparency and carry a serious risk that they cannot deliver on their high-flying promises.⁵⁰ For instance, carbon capture and storage/sequestration (CCS) projects are often touted by fossil fuel companies as a way to balance, or offset, their CO₂ emissions. However, research shows that CCS is most often used to produce more, not less, oil and gas. According to an industry report prepared by the Global CCS Institute,⁵¹ “Of the 12 commercial CCS projects in operation in 2021, more than 90 percent were engaged in enhanced oil recovery” – meaning, in the production of oil and natural gas – “using carbon dioxide emitted from natural gas processing facilities or from fertilizer, hydrogen or ethanol plants.”⁵²

In addition to net-zero claims and unreliable carbon accounting, a third category of selective disclosure includes withholding information that is required to understand the context

⁴⁷ C. Blanco, F. Caro, & C. J. Corbett, The State of Supply Chain Carbon Footprinting: Analysis of CDP Disclosures by US Firms. *Journal of Cleaner Production*, 135 (2016): 1189-1197.

⁴⁸ Nemes et al. (op cit.). See also A. G. Bumpus & D. M. Liverman, Accumulation by Decarbonization and the Governance of Carbon Offsets. *Economic Geography* 84.2 (2008): 127-155; B. Elgin, These Trees Are Not What They Seem, *Bloomberg*, 9 December 2020. <https://www.bloomberg.com/features/2020-nature-conservancy-carbon-offsets-trees/>

⁴⁹ A. Gurgel, explainer: Carbon Offsets. MIT Climate Portal. Accessed 1 May 2025. <https://climate.mit.edu/explainers/carbon-offsets>

⁵⁰ In & Schumacher, Carbonwashing (op cit.); K. Anderson & G. Peters, The Trouble with Negative Emissions. *Science*, 354.6309 (2016): 182-183; K. Backstrand & E. Lovbrand, Planting Trees to Mitigate Climate Change: Contested Discourses of Ecological Modernization, Green Governmentality, and Civic Environmentalism. *Global Environmental Politics* 6.1 (2006): 50-75.

⁵¹ Global CCS Institute, Global Status of CCS 2021 Report, https://www.globalccsinstitute.com/wp-content/uploads/2021/10/2021-Global-Status-of-CCS-Report_Global_CCS_Institute.pdf

⁵² C. Harvey & K. House, Every Dollar Spent on This Climate Technology Is a Waste, *New York Times*, 16 August 2022. <https://www.nytimes.com/2022/08/16/opinion/climate-inflation-reduction-act.html>

of a given claim. This category of selective disclosure includes withholding information about participating stakeholders, such as partners or collaborative organizations, that would affect the understanding of the information provided⁵³; or underreporting investment allocation, i.e., when a firm promotes a particular investment or capital expenditure without disclosing its share of all investments or expenditures.⁵⁴

It is my opinion that when Defendants engage in selective disclosure, e.g., under-report their greenhouse gas emissions, or make claims about “offsetting” greenhouse gas emissions that imply they intend to reach or are capable of reaching “zero” emissions, as per the examples discussed above, this may be considered greenwashing.

4.2.2 Oil Majors and Scope 3 Emissions Disclosures

As discussed in section 4.2.1 above, measures to reduce greenhouse gas emissions should include the potential by the polluting firm to address both its direct and its indirect emissions along its supply chain. Yet several fossil fuel companies, which cause inordinate GHG emissions, do not disclose their indirect (Scope 3) emissions. A 2022 study by Li, Trencher and Asuka revealed a lack of accounting for Scope 3 emissions by oil majors.⁵⁵ Shell in 2017 pledged to reduce its Scope 3 emissions, followed by BP in 2019, but “no evidence was found however of concrete actions to achieve these pledges.”⁵⁶ Further, Exxon “has refuted the need to report Scope 3 emissions,” arguing that “they do not provide meaningful insight into the Company’s emission reduction performance...” Researchers have identified this style of

⁵³ Z. Young, NGOs and the Global Environment Facility: Friendly Foes? *Environmental Politics* 14 (1999): 243-267. doi: 10.1080/09644019908414446; M. Li et al. (op. cit.).

⁵⁴ M. Li et al. (op. cit.)

⁵⁵ Ibid.

⁵⁶ Ibid.

argument as specious at best and strategically deceptive at worst: “Concerns have been raised that firms may outsource their carbon emissions to their supply chain, reducing reported emissions while maintaining or increasing the overall emissions generated in connection with their PAAs (projects, activities, or assets).”⁵⁷ As In and Schumacher observe, “This lack of reporting, combined with the fact that for many firms, Scope 3 emissions represent a significant portion of their total footprint, creates the potential for numerous firms to present an inaccurate account of their true carbon performance.”⁵⁸

Another study by the environmental law and policy organization Client Earth describes selective disclosure by Chevron with regard to its Scope 3 emissions:

Scope 3 emissions, comprising the vast majority of Chevron’s emissions, are not addressed by any of the company’s targets. Instead, it says it will develop a renewable energy business, invest in “low-carbon technologies” and sell offsets “to our customers around the world to help them achieve their own lower-carbon goals.”⁵⁹

Client Earth further notes that “the company’s ‘upstream’ scope 1 and scope 2 emissions reduction targets do not go beyond 2028 and are set on an intensity, not an absolute basis. This means that Chevron is still able to increase its fossil fuel production and increase its (absolute)

⁵⁷ In and Schumacher, referencing (a) S.Y. In, K.Y. Park, & A. H. Monk. Is “Being Green” Rewarded in the Market?: An Empirical Investigation of Decarbonization and Stock Returns (2019). *Available at SSRN: 3020304*; (b) Blanco et al. (op cit.); and (c) F. Bowen & J. Aragon-Correa, Greenwashing in Corporate Environmentalism Research and Practice: The Importance of What We Say and Do. *Organization & Environment* 27.2 (2014): 107-112.

⁵⁸ B. Mercereau, G. Neveux, J. P. Sertã, B. Marechal, & G. Tonolo, Fighting Climate Change as a Global Equity Investor. *Journal of Asset Management* 21 (2020): 70-83. Quoted in In and Schumacher (op cit.).

⁵⁹ Client Earth, Greenwashing Files: Chevron. <https://www.clientearth.org/projects/the-greenwashing-files/chevron/>. Note that this statement also includes evidence of displacement of responsibility (see section 4.4 of this declaration).

emissions.”⁶⁰

In my opinion, when Defendants make claims promoting their emissions reductions without reference to Scope 3 emissions, this may be considered greenwashing.

4.2.3 Legal and Regulatory Risk of Selective Disclosure

Regulatory agencies and law/policy organizations have underscored the legal and regulatory risk to fossil fuel companies of selective disclosure. The UK regulatory agency known as the Advertising Standards Authority (ASA) concluded that some of Shell’s “Clean Energy” advertising claims were likely to mislead consumers because they “gave the overall impression that a significant proportion of Shell’s business comprised low-carbon energy products” even though this was not the case. Rather, Shell’s “large-scale oil and gas investment and extraction comprised the vast majority of the company’s business model.” As a result, the regulator ruled that the claims “omitted material information and were likely to mislead.”⁶¹

The environmental law and policy organization Client Earth has prepared a briefing explaining “the legal risk of advertising carbon ‘offsets,’” including “non-compliance, shareholder action, litigation, and regulatory enforcement.”⁶²

4.3. Non-Credible Claims

A non-credible claim is a “claim [that] touts environmentally friendly attributes of a dangerous or highly controversial practice, product, service or policy.”⁶³ If the claim attempts to make the

⁶⁰ Ibid.

⁶¹ Advertising Standards Authority and the Committee of Advertising Practice (UK), Ruling on Shell UK Ltd. 7 June 2023, Complaint Ref: G22-1170842 Shell UK Ltd. <https://www.asa.org.uk/rulings/shell-uk-ltd-g22-1170842-shell-uk-ltd.html>

⁶² Client Earth, The Legal Risk of Advertising Carbon “Offsets.” Accessed 1 May 2025. <https://www.clientearth.org/latest/news/the-legal-risk-of-advertising-carbon-offsets/>

⁶³ N. Nemes et al. (op. cit.).

public feel “green” about a choice that is dangerous to their health or to the environment, or carries potential long term ecological harm or adverse impacts on natural resources, the claim cannot be taken as credible.

In my opinion, promoting ineffective or future-oriented (and therefore untested and uncertain) solutions to climate change effects are predominant in fossil fuel company messaging, including messaging by Defendants. Researchers have shown these to be “discourses of climate delay” – strategies to delay action on climate change, since they nearly always “fail to manifest in the promised timeframe.”⁶⁴ Such empty promises by fossil fuel companies often include empirically unsupported claims that technological solutions are imminent and/or that they make “stringent policies or demand reduction measures unnecessary.”⁶⁵

4.3.1 Promoting Natural Gas as Clean Energy

A prominent example of non-credible claims is the promotion by the fossil fuel industry about natural gas as a “clean” or “decarbonized” option in the energy transition. Fossil fuel companies including Shell⁶⁶, Chevron⁶⁷, ExxonMobil⁶⁸, and BP⁶⁹ advocate what the industry calls “blue” hydrogen – a process that uses steam methane reforming (SMR) to generate hydrogen from natural gas, and then applies carbon capture and storage (CCS) processes to bury emissions

⁶⁴ W. F. Lamb, G. Mattioli, S. Levi, J. T. Roberts, S. Capstick, F. Creutzig, J. Minx, F. Müller-Hansen, T. Culhane & J. Steinberger, Discourses of Climate Delay, *Global Sustainability* 3 (2020), doi:10.1017/sus.2020.13.

⁶⁵ Ibid.

⁶⁶ Shell plc, Energy Transition Strategy 2024, https://www.shell.com/sustainability/climate/shell-energy-transition-strategy/_jcr_content/root/main/section_321304972/promo_copy_copy/links/item0.stream/1726832326846/2c3f9065f2886e789ac196789f137dbca49473e8/shell-energy-transition-strategy-2024.pdf

⁶⁷ V. Addison, ‘Hydrogen is Happening’: Chevron Pushes Ahead Despite Industry Doubts. Hart Energy, 6 November 2024. <https://www.hartenergy.com/exclusives/hydrogen-happening-chevron-pushes-ahead-despite-industry-doubts-211003>

⁶⁸ ExxonMobil, Delivering Industrial Solutions: Hydrogen. Accessed 1 May 2025. <https://corporate.exxonmobil.com/what-we-do/delivering-industrial-solutions/hydrogen#BryanChapmanvideo>

⁶⁹ BP: Hydrogen. Accessed 1 May 2025. <https://www.bp.com/en/global/corporate/what-we-do/hydrogen.html>

below the surface of the earth. A 2022 American Petroleum Industry press release claimed that “blue hydrogen delivers significant emissions reductions.”⁷⁰ But climate scientists have calculated that “capturing SMR carbon emissions uses so much energy and results in so much extra leakage of methane—another greenhouse gas that has many times more warming potential than carbon dioxide—that any possible CO₂ emissions benefit is nearly canceled out... Blue hydrogen is so dirty, in fact, that it’s worse for the climate than burning natural gas for heat in the first place.”⁷¹ Shell argues that hydrogen “is positioned to play a key role in the energy transition”⁷² and advocates for blue hydrogen as part of its “decarbonization pathways.”⁷³ Shell also claims to have developed a proprietary Shell Blue Hydrogen Process, which it has misleadingly characterized as “the most cost-effective technology for avoiding CO₂ emissions.”⁷⁴ The Dutch regulatory authority (known as the Advertising Code Committee) determined that a Dutch company co-owned by Exxon and Shell was deceiving consumers when it described natural gas as the “cleanest” fossil fuel because it suggested that fossil fuels can be clean in the sense that they do not cause environmental damage.⁷⁵

In my opinion, when Defendants advertise natural gas or “blue hydrogen” as a clean fuel, they may be engaging in greenwashing.

⁷⁰ API, New Study: Hydrogen Produced from Natural Gas Delivers Significant U.S. Emissions Reductions. 12 October 2022. <https://www.api.org/news-policy-and-issues/news/2022/10/12/blue-hydrogen-delivers-significant-emissions-reductions>

⁷¹ A. De La Garza, Fossil Fuel Companies Say Hydrogen Made from Natural Gas is a Climate Solution. But the Tech May Not Be Very Green. *Time Magazine*, 22 September 2021. See R. Howarth, How Green is Blue Hydrogen? *Energy Science and Engineering* 2021. <https://scijournals.onlinelibrary.wiley.com/doi/10.1002/ese3.956>

⁷² Shell Hydrogen. Accessed 1 May 2025. <https://www.shell.com/what-we-do/hydrogen.html#vanity-aHR0cHM6Ly93d3cuc2hlbGwuY29tL2VuZXJneS1hbmQtaW5ub3ZhdGlubi9uZXctZW5lcmdpZXMvaHlkcm9nZW4uaHRtbA>

⁷³ Shell plc, Energy Transition Strategy 2024 (op cit.).

⁷⁴ The Shell Blue Hydrogen Process. Accessed 1 May 2025. <https://www.shell.com/business-customers/catalysts-technologies/resources-library/shell-blue-hydrogen-process-cost-effective-technology-avoiding-CO2-emissions.html>

⁷⁵ Reclame Code Commissie (Advertising Code Committee) (Netherlands), Ruling on NAM. File Ref No.: 2017/00458. 31 July 2017. <https://www.reclamecode.nl/uitspraken/klimaat/nutsvoorzieningen-2017-00458/194167/>

4.4. Displacement of Responsibility

Displacement of responsibility involves shifting blame for global warming to other parties, such as consumers⁷⁶; displacing concerns with the product's real and ongoing greenhouse gas emissions; projecting targets that do not rely solely on the actor making the projection; or appealing to states, citizens or society as bearers of responsibility for the reduction of fossil fuel emissions. Lamb et al. call this form of greenwashing "blame-shifting."⁷⁷ One of the most common forms of blame-shifting is when a fossil fuel company attempts to redirect the focus on reducing greenhouse gas emissions from fossil fuel *production* to fossil fuel *consumption*.⁷⁸ Fossil fuel companies frequently deploy messaging that exhorts consumers to reduce their own "carbon footprint,"⁷⁹ or recycle plastic bottles, for instance.

While blame-shifting to individuals or other countries ("whataboutism") is one tactic, another is to transfer risks to national governments or public institutions. In some cases, the viability of a fossil fuel company's emissions reduction plan depends on a regulatory and co-financing framework that privileges the needs of the fossil fuel sector, whereby government or other finance partners are required to maintain the continued viability of the sector during the energy transition. This not only attempts to make end users of fossil fuel products responsible for greenhouse gas emissions; it makes government responsible for most of the costs and risks of a

⁷⁶ Lamb et al. (op cit.). See also B. Franta, Big Carbon's Strategic Response to Global Warming, 1950-2020, PhD Dissertation, Stanford University, August 2022.

⁷⁷ Lamb et al. (op cit.)

⁷⁸ M. Maniates, Individualization: Plant a Tree, Buy a Bike, Save the World? *Global Environmental Politics* 1.3 (2001): 31-52. <https://direct.mit.edu/glep/article-abstract/1/3/31/14114/Individualization-Plant-a-Tree-Buy-a-Bike-Save-the>

⁷⁹ J. R. Mahoney, How Clever Marketing Sold the World the Myth of the Carbon Footprint. *Medium*, 12 November 2021. <https://bettermarketing.pub/how-clever-marketing-sold-the-world-the-myth-of-the-carbon-footprint-b628448c4bd2>; see also J. Kenney, Beyond Propaganda. *New York Times*, 14 August 2006. <https://www.nytimes.com/2006/08/14/opinion/14kenney.html>

CCS project that is unproven at the projected scale.⁸⁰

A third form of blame-shifting frequently used by fossil fuel companies is to “frame the required energy transition as being related to society’s demand for energy – not its supply.”⁸¹ In this framing, society’s continued insistence for fossil fuels is the problem, not the fossil fuel companies’ continued encumbrance of the energy transition.⁸²

4.4.1 Redirecting Responsibility to Consumers

Over pictures of everyday Americans, taglines from Chevron’s “Will You Join Us” ad campaign read: “I will leave the car at home more.” “I will take my golf clubs out of the trunk.” “I will replace 3 light bulbs with CFLs.” “I will finally get a programmable thermostat.” “I will consider buying a hybrid.”⁸³

According to Lamb et al., a social media campaign run by BP called “Know Your Carbon Footprint” exhorted consumers to calculate their own carbon emissions. “Our ‘Know your carbon footprint’ campaign successfully created an experience that not only enabled people to discover their annual carbon emissions, but gave them a fun way to think about reducing it – and to share their pledge with the world.”⁸⁴

4.4.2 Redirecting Responsibility to Society

⁸⁰ C. Bussewitz, Exxon Seeks \$100 Billion for Houston Carbon Capture Plan. Associated Press, 1 November 2021. <https://apnews.com/article/climate-technology-business-paris-f76df7ee4e6a8a4b6bab96badb2eb41a>

⁸¹ Li et al. (op cit.).

⁸² G. Gentile and J. Gupta, Orchestrating the Narrative: The Role of Fossil Fuel Companies in Delaying the Energy Transition. *Renewable and Sustainable Energy Reviews* 212 (2025). <https://doi.org/10.1016/j.rser.2025.115359>

⁸³ J. Romm, LCV Calls Out Chevron Hypocrisy. *Grist Magazine*. 24 November 2008. <https://grist.org/article/i-see-a-greenwash-and-i-want-it-painted-black/>

⁸⁴ Lamb et al. (op cit.)

During a 2021–2022 investigation by the House Committee on Oversight and Reform regarding greenwashing by the fossil fuel industry, documents obtained under subpoena show that Shell cautioned its employees,

When repurposing messaging on our Net Carbon Footprint (NCF) ambition ...Please do not give the impression that Shell is willing to reduce carbon dioxide emissions to levels that do not make business sense. Our ambition is pegged to society's progress. We will seek opportunities through transition in ways that make commercial sense for Shell, in response to changing consumer demand, and in step with society's progress as it moves towards the Paris goal of limiting global warming.⁸⁵

ExxonMobil has also attempted to redirect responsibility for global warming to society (as well as to government and to consumers).⁸⁶ In a “Frequently Asked Questions” section in its 2020 Carbon and Energy Summary report, in answer to the question, “*Does ExxonMobil have to reduce its production to align with the Paris Agreement?*”, the company’s answer is NO:

The Paris Agreement does not contemplate or require individual companies to decrease production to align with the goal of maintaining global temperature rise to below 2°C.

The structure of the agreement recognizes that energy-related emissions are driven by society’s demand for energy -- not its supply. Improved efficiency, effective government

⁸⁵ Released 15 September 2022. Documents archived at: <https://web.archive.org/web/20230923190650/https://oversightdemocrats.house.gov/sites/democrats.oversight.house.gov/files/2022/FossilFuelDocumentsForRelease.pdf>

⁸⁶ G. Supran & N Oreskes. Rhetoric and Frame Analysis of ExxonMobil’s Climate Change Communications. *One Earth* 4 (2021):696–719. <https://doi.org/10.1016/j.oneear.2021.04.014>

policies and informed consumer choices are more effective measures to address demand.⁸⁷

Chevron, meanwhile, redirects responsibility to everyone but itself:

We aspire to reach net zero upstream emissions (Scope 1 and 2) by 2050 ...

Accomplishing this depends on continuing progress on commercially viable technology, government policy, successful negotiations for carbon capture and storage and nature-based projects, availability of cost-effective, verifiable offsets in the global market, and granting of necessary permits by governing authorities.⁸⁸

It is my opinion that when Defendants appeal to individuals (consumers), states/countries, or society as (co-)bearers of responsibility for the reduction of GHG emissions, yet fail to acknowledge their central role in creating the majority of emissions, this may amount to greenwashing.

5. Longstanding and Coordinated Efforts of Greenwashing

Spurred to action by public protests and rallies on the twentieth anniversary of Earth Day in 1990, business leaders adopted “corporate environmentalism” as a strategy to respond to the growing public concern for environmental protection and action to mitigate climate change. It

⁸⁷ ExxonMobil 2020 Energy and Carbon Summary. Quoted in Li et al (op. cit.). <https://www.truevaluemetrics.org/DBpdfs/Companies/Exxon/Exxon-Energy-and-carbon-summary-report-2021.pdf>
See also G. Supran & N Oreskes. Assessing ExxonMobil’s Climate Change Communications (1977–2014). *Environ Res Lett.* 2017; 12:84019. <https://doi.org/10.1088/1748-9326/aa815f>

⁸⁸ Chevron, Advancing Energy Progress: 2023 Climate Change Resilience Report. <https://www.chevron.com/-/media/chevron/sustainability/documents/climate-change-resilience-report.pdf>

quickly became clear, however, that corporate environmentalism was mainly about companies learning to promote values of sustainability and environmental protection to sell more products, not to make any substantial changes to its operations or to the impact of its production.⁸⁹ Based on my research, and supported by peer-reviewed academic studies, monitoring reports, and news reporting, it is my opinion that Defendants have engaged in such greenwashing since at least that time, and continue to do so today. Working in tandem with trade associations, public relations firms and advertising agencies, fossil fuel companies developed image and influence campaigns to convince consumers, investors and regulators that their products and processes were environmentally sustainable. At the same time, these companies' continued lobbying for decreased environmental and climate regulations, along with continued expansion of oil and gas production, proved that fossil fuel companies' ostensible "green" commitments had to do with protecting their image, not with environmental sustainability.⁹⁰

My own research has extensively examined the longstanding and intricately coordinated relationship between fossil fuel companies and their public relations experts to shape how publics understand and make sense of environmental problems, with dramatic effects on our response to environmental hazards like pollution, resource depletion, and the climate crisis.⁹¹ Over the course of the twentieth and twenty-first centuries, fossil fuel PR promoted polluting companies as the standard-bearers of environmental solutions. By sharing greenwashing strategies across sectors like petroleum, coal, and chemicals, public relations firms could use

⁸⁹ D. Helvarg, "The Big Green Spin Machine": Corporations and Environmental PR. *The Amicus Journal* 18.2 (1996): 13–21; J. Stauber & S. Rampton, *Toxic Sludge is Good for You*, Penguin Putnam, 1996; D. Beers & C. Capellaro, Greenwash! *Mother Jones*, 16.2 (1991).

⁹⁰ D. Levy, Environmental Management as Political Sustainability, *Organization & Environment* 10.2 (1997): 126–147. https://www.faculty.umb.edu/david_levy/OE97.pdf

⁹¹ M. Aronczyk and M. I. Espinoza, *A Strategic Nature: Public Relations and the Politics of American Environmentalism*, Oxford University Press, 2022.

their broad client roster to harmonize multiple voices and deliver a multistakeholder, pro-market, anti-regulatory message to the public and political decision-makers.⁹²

In the last thirty-five years, peer-reviewed academic research and journalistic investigations have documented ongoing greenwashing campaigns by fossil fuel companies. One pattern in particular is clear from the research into greenwashing over decades: The primary reason that fossil fuel companies continue to greenwash is that they believe it is effective. Since the mid- to late-twentieth century, consumers have been exposed to thousands if not millions of messages promoting fossil fuel companies' environmental and climate commitments.

Unsurprisingly, this barrage of messages has affected consumers' perception of fossil fuel companies.⁹³ In 2024, for instance, researchers Amazeen and co-authors conducted a study testing the impact of greenwashing on consumer perceptions.⁹⁴ Participants were shown a native advertisement⁹⁵ by ExxonMobil containing a series of misleading claims, such as, "Companies like ExxonMobil are investing heavily in becoming more environmentally friendly." The advertisement, part of a campaign by ExxonMobil titled "The Future of Energy," was designed to look like a news feature and appeared in the *New York Times*. Participants were asked how much they agreed with specific claims made in the "Future of Energy" post. Participants who were not primed to be skeptical ("inoculated") were strongly influenced by the claims. The

⁹² M. Aronczyk, How PR Firms Captured the Sustainability Agenda, *Foreign Policy*, 17 February 2022. <https://foreignpolicy.com/2022/02/17/climate-crisis-activism-edelman-pr-sustainability/>

⁹³ As early as 1976, in an opinion poll asking how the American public viewed oil companies (among other major corporations). Mobil Oil was rated more highly than the other companies. Mobil Oil's then-Vice President for Public Affairs, Herb Schmertz, claimed this positive perception was a direct result of the company's advertising. H. Schmertz, *Goodbye to the Low Profile*, Little, Brown & Co., 1986.

⁹⁴ M. Amazeen, B. Sovacool, A. Krishna, R. Debnath, C. Wells, The "Future of Energy"? Building Resilience to ExxonMobil's Disinformation through Disclosures and Inoculation. *NPJ Climate Action* 4.19 (2025). <https://www.nature.com/articles/s44168-025-00209-6>

⁹⁵ Native advertising is a marketing tactic whereby advertisers develop sponsored messages that mimic the news environment in which they are placed. Franklyn et al. find that "native advertising involves a significant risk of deception which self-regulation has not addressed." D. Franklyn, D. Hyman, C. Yee, M. Rahmati, Going Native: Can Consumers Recognize Native Advertising? Does It Matter? 19 *Yale J.L. & Tech.* 77 (2017). <https://digitalcommons.law.ggu.edu/cgi/viewcontent.cgi?article=1815&context=pubs>

authors conclude that “even a single exposure to misleading climate claims can shape beliefs.” Further, while “disclosures [i.e., the label, “Paid Post by ExxonMobil,” on the ad] helped some participants recognize the ad as advertising, [] many remained unaware of the disclosure or its significance,” a finding demonstrated in prior studies.⁹⁶

Similarly, psychological researchers Friedman and Campbell tested consumer response to greenwashing advertisements by exposing 220 undergraduate students to two 30-second TV spots.⁹⁷ The first was an ad for BP titled, “Keep Advancing,” in which EV charging stations are shown alongside claims that BP is developing “advanced fuels” that will make gas-powered vehicles “run more efficiently.” The second advertisement, developed by ExxonMobil, was titled, “Advancing Climate Solutions,” and features a voiceover that “describes employees of the company as pragmatic scientists and engineers who have put a plan in motion to reduce ExxonMobil’s GHG emissions by approximately 30% by 2025, in part by developing ‘low-carbon technologies.’” After viewing the ads, participants were asked to express their beliefs regarding the extent to which fossil fuel companies are making efforts and progress in transitioning to renewable energy. The study’s results “showed that a single exposure to two 30-second greenwashing ads was indeed sufficient to bolster individuals’ opinions regarding the efforts and progress of fossil fuel corporations in transitioning to renewable energy.”⁹⁸

Research also points to the coordinated efforts by members of the fossil fuel industry to

⁹⁶ M. A. Amazeen, Native Advertising in Digital News Contexts: Perpetuating the Twenty-first Century Infodemic. Pp. 248-260 in *The Routledge Companion to Advertising and Promotional Culture*, 2nd edition, eds. E. West and M. McAllister. New York: Routledge, (2023). Wojdyski, B. W. & Nathaniel, J. E. Going Native: Effects of Disclosure Position and Language on the Recognition and Evaluation of Online Native Advertising. *J. Advertising* 45 (2016): 157–168.

⁹⁷ R. S. Friedman & D. S. Campbell, An Experimental Study of the Impact of Greenwashing on Attitudes toward Fossil Fuel Corporations’ Sustainability Initiatives, *Environmental Communication* 17.5 (2023): <https://doi.org/10.1080/17524032.2023.2215959>

⁹⁸ Ibid.

increase the range and impact of greenwashing messages.

6. Role of Public Relations Firms in Greenwashing

It is my opinion that public relations firms and advertising agencies have been responsible for crafting greenwashing campaigns for their fossil fuel clients in the following ways (among many others):

- minimizing, omitting, and/or reframing key information about firm-level or industry-level commitments to action on climate change;
- downplaying or diminishing the role of the firm or industry in climate change;
- widening gaps between climate-related pledges to national or international climate agreements (e.g., the 2015 Paris Agreement) and actual actions;
- promoting technologies or innovations to mitigate climate change that are unproven or underdeveloped (e.g., not scalable to industry-level needs);
- promoting “scenarios” for climate mitigation that downplay the industry’s accountability;
- creating and deploying industry-based metrics or certification (i.e., voluntary regulation) while acting against formal regulatory frameworks;
- creating public-private partnerships with environmental groups to build brand reputation without engaging formally in climate action;
- promoting alternative approaches to fossil fuel production while hiding or minimizing the presence of ongoing business models that rely on fossil fuel production.

The public relations and advertising industries are largely unregulated industries. This is one reason fossil fuel companies rely on them to create information and influence campaigns. A

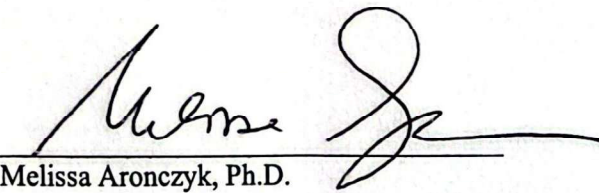
second reason is that these firms operate largely behind the scenes. Most ordinary citizens are unfamiliar with the workings or even the names of major public relations firms and advertising agencies. The lack of transparency is a major reason that oil and gas companies look to PR to help them fight their battles.

The public and policymakers have a right to know who is behind the strategies, groups and campaigns that are organized and managed by public relations firms, ad agencies, and other third-party enablers. To avoid a distorting influence on the communication and understanding of climate change impacts, groups and campaigns funded by oil and gas companies should be required to disclose this funding as well as the names of the third parties involved in brand-building, strategy, and message amplification.

PR firms are experts in the business when it comes to long-term planning and strategy to promote industry viewpoints. For over 50 years, PR firms have developed strategies to deny, delay action, or sow doubt about climate change. They can coordinate across industry sectors like oil and gas, chemicals and pesticides, mining because they have had clients in all of those sectors. Many of the same PR firms are using the same strategies for the same clients 50 years later.

Regulating the norms and practices of public relations and advertising for fossil-fuel clients would be one important step to improve transparency so that the public and policymakers understand the motivations behind climate change messaging. A second step would be to regulate what kinds of claims are allowable and which should be disallowed in promotional communication. Unproven technologies, misleading claims, or other distorted attempts to build brand reputation at the expense of accurate messaging should be regulated to limit climate disinformation.

I declare this 6th day of May, under the penalties of perjury under the laws of the State of Hawai'i, that the foregoing is true, and I understand that this document may be filed in an action or proceeding in a court of law.


Melissa Aronczyk, Ph.D.

IN THE CIRCUIT COURT OF THE FIRST CIRCUIT
STATE OF HAWAII

CITY AND COUNTY OF HONOLULU and
HONOLULU BOARD OF WATER
SUPPLY,

Plaintiffs,

vs.

SUNOCO LP; ALOHA PETROLEUM,
LTD.; ALOHA PETROLEUM LLC; EXXON
MOBIL CORP.; EXXONMOBIL OIL
CORPORATION; ROYAL DUTCH SHELL
PLC; SHELL OIL COMPANY; SHELL OIL
PRODUCTS COMPANY LLC; CHEVRON
CORP.; CHEVRON USA INC.; BHP GROUP
LIMITED; BHP GROUP PLC; BHP
HAWAII INC.; BP PLC; BP AMERICA
INC.; MARATHON PETROLEUM CORP.;
CONOCOPHILLIPS; CONOCOPHILLIPS
COMPANY; PHILLIPS 66; PHILLIPS 66
COMPANY; AND DOES 1 through 100,
inclusive,

Defendants.

CIVIL NO. 1CCV-20-0000380 (LWC)

(Other Non-Vehicle Tort)

**DECLARATION OF ANTHONY R.
PRATKANIS, M.A., PH.D.**

**DECLARATION OF ANTHONY R. PRATKANIS, M.A., Ph.D. IN SUPPORT OF
PLAINTIFF'S OPPOSITION TO DEFENDANT'S MOTION FOR SUMMARY
JUDGMENT BASED ON THE STATUTE OF LIMITATIONS**

I, Anthony R. Pratkanis, declare as follows:

Summary of Opinions

1. A doubt campaign is a marketing and information campaign that floods the information environment with false, deceptive, misleading, and distracting information such that a consumer cannot make informed decisions about a product. In the marketing of fossil fuels, such a campaign removes the need for an important product attribute (that the product does not have a negative impact on the environment and the corporation is taking environmentally-responsible actions on climate change) and thus facilitates the continued use and sale of fossil fuels.
2. Green messaging refers to marketing communications designed to show the product, brand, manufacturer, corporation, and other business aspects as promoting and achieving positive environmental goals. Green messaging is important to consumers and impacts the behavior of those consumers in a number of significant ways, including addressing their fears and guilt over climate change.
3. The net impressions that consumers take away from marketing communications, including doubt and green messaging, are consistent with a set of conversational norms known as Grice's maxims. When a take-away does not match reality, then it has the tendency and capacity to mislead. The net impressions from green messaging that do not match reality (i.e. greenwashing) and doubt campaigns can have a tendency and capacity to mislead in a number of ways, including implying proof or a reasonable basis for a claim, using hedges and ambiguous labels and phrase, invoking misleading expertise and associations, implying an insignificant fact is significant, and using juxtaposing, incomplete comparisons, and selective omission of important facts, among other means. By introducing false net impressions into consumers' perceptions and decision making, a deceptive and/or misleading doubt and green message campaign can have extensive adverse consequences for competitors, consumers, and, of course, the natural environment that humans must live in.
4. Doubt campaigns about fossil fuels and green messaging can both be used to lead consumers to misleading and false net impressions about the use of fossil fuels. When used in combination, both of these influence strategies can lead consumers to believe that there are no adverse consequences to the use of fossil fuels, and if there is, those problems will soon be solved, and thus, it is reasonable for a consumer to continue to use and purchase fossil fuels.

Background and Area of Expertise

I am an experimental social psychologist, having obtained my Ph.D. in social psychology from the Ohio State University in 1984 (with minors in cognitive psychology and in statistics). I am currently an Emeritus Professor of Psychology at the University of California at Santa Cruz, where I have taught courses in social influence, social psychology, research methods, consumer psychology, and on the nature of belief. I have also taught courses in marketing management, buyer behavior, and advertising (marketing communications) at the business school (Graduate School of Industrial Administration, now Tepper School of Business) at Carnegie-Mellon University. My professional resume is presented as Appendix A of this declaration.

I am a fellow of the American Psychological Association and the Association for Psychological Science. I am also the founding editor of *Social Influence* – a scientific journal devoted to the study of influence and persuasion processes. I have served as a past associate editor for the *Journal of Consumer Psychology* and on the editorial board of the *Journal of Public Policy and Marketing* and as a reviewer for many academic journals. As a journal editor, editorial board member, and scientific reviewer, I am called on to make judgments and evaluations as to the scientific merit and methodological soundness of a broad range of research. I am a co-editor of *Attitude Structure and Function*, *Social Psychology*, and *The Science of Social Influence: Advances and Future Progress*.

My primary field of research and study is social influence and belief formation, including in the areas of mass communications, deceptive advertising, sales practices, and economic fraud. I have authored or co-authored over six dozen scholarly articles and other publications dealing with these and related topics. Among these publications are books entitled *Age of Propaganda*, which deals explicitly with mass media and the formation of belief, and *Weapons of Fraud*, which describes the influence tactics used by fraud criminals. In conducting this research, I have performed numerous experiments and surveys. I have also served as a pro-bono consultant for various organizations. For example, after September 11, 2001, I was contacted by the United States military to use the principles of social influence (such as those described below and used in this declaration) to help develop tactics for countering the propaganda of terrorists, insurgents, and dictators. I have also worked with AARP, FINRA, and law enforcement about what can be done to prevent economic fraud crimes, resulting in testimony before the U.S. Senate Special Committee on Aging and the U.S. Securities and Exchange Commission.

Task and Approach

I was asked by Plaintiff to provide an overview of the nature of doubt campaigns and their impact on consumers and the importance of green messaging in a consumer's decision-making for fossil fuel products. I was also asked to describe how marketing communications such as doubt and green messaging can have a tendency and capacity to mislead and deceive a reasonable consumer. Finally, I was asked about whether doubt and green messaging campaigns create similar misleading inferences in consumers' minds.

Specifically, I was asked to address these questions:

- I.** What is a doubt campaign and how do such campaigns impact consumers?
- II.** What is green messaging and is it important to consumers?
- III.** How can marketing communications lead reasonable consumers to draw misleading inferences about a message, brand, and/or corporation? What are the potential consequences of those misleading inferences?
- IV.** How do doubt and green messaging campaigns, both singularly and in combination, lead to false impressions and misleading inferences?

In addressing these questions, I base my findings and conclusions on the scientific work in the field of consumer behavior and on the related field of the science of social influence. As an expert in the area of social influence, persuasion, and consumer behavior, I have made use of

information and knowledge that I have acquired through research, analysis, and consulting in this domain for over 40 years of my professional career.

Over the last century or so, scientific methods involving experimental analysis, case study, and surveys have been used to understand consumer behavior and to address such questions as: (a) how do people decide to make a purchase?; (b) what social influence tactics are most effective in producing a sale?; and (c) how do consumers process information – for example, an advertisement, web page, sales pitch, direct mail solicitation, or a disclaimer – in advertising and sales situations? The results of this collective research has been the development and testing of theories of attention, decision-making, and persuasion along with an understanding of how social influence tactics work in advertising, direct marketing, sales, publicity events, and related situations. This body of established scientific knowledge includes tactics of social influence and persuasion (see Cialdini, 1984; Petty & Cacioppo, 1981; 1986; Pratkanis & Aronson, 2001; see Pratkanis, 2007 for a list of 107 influence tactics), rules for understanding how consumers are influenced to make misleading inferences (see Boush, Friestad, & Wright, 2009; Grice, 1989; Harris, 1983, Hastak & Mazis, 2011; Leff, 1976; Miller & Stiff, 1993; Preston, 1994), specification of the conditions under which disclaimers and disclosures are least and most effective at modifying claims (Ben-Shahar & Schneider, 2014; Clark & Brock, 1994; Loewenstein, Sunstein, & Golman, 2014; Wilkie, McNeill, & Mazis, 1984), the modus operandi of deception and fraud schemes (Bell & Whaley, 1991; Clark & Mitchell, 2019; Leff, 1976; Pratkanis & Shadel, 2005; Whaley, 1982), an understanding of materiality in consumer decision making (Richards & Preston, 1992), and principles for how consumers process marketing communications in general (Baumgardner, Leippe, Ronis, Greenwald, 1983; Pratkanis & Greenwald, 1993; Webb & Ray, 1979).

Marketers purposefully use this knowledge of social influence and consumer behavior to increase the effectiveness of their communications and to influence consumers. For example, there are a number of trade textbooks that discuss how to use these influence techniques (e.g., Aaker & Biel, 1993; Aaker & Myers, 1987; Robertson, Zielinski, & Ward, 1984; Wilkie, 1994). Armstrong (2010), in an analysis of over 3,000 empirical studies, finds that effective advertising uses tactics identified by the science of social influence. Similarly, principles of social cognition, including those describing consumer attention, information search, message inferences, memory and recall, and decision making, are used to design effective marketing communication (see e.g., Alba, 2011; Bettman, 1979; Harris, 1983; 1989).

In addressing Plaintiff's questions, I employed a social influence analysis. A social influence analysis is an approach that uses this body of scientific knowledge to understand how a consumer perceives a marketing message (i.e., the consumer take-away or net impression) and is influenced and persuaded by marketing and other communications, including how that consumer take-away impacts a consumers' decision making process about a brand (see Boush, Friestad, & Wright, 2009; Cialdini, 1984; Harris, 1983, Hastak & Mazis, 2011; Pratkanis, 2007; Pratkanis, & Aronson, 2001; for an example applied to fraud criminals see Pratkanis & Shadel, 2005). Using a social influence analysis, a persuasive communication is analyzed to understand the message a consumer would take from the communication – that is, the net impression. This analysis focuses on a number of key concepts to understand a consumer's net impression, including: (1) the social influence tactics used (such as social credibility and fear appeals); (2) the social cognition principles engaged (such as misleading inferences and ineffectiveness of disclosures); and (3) the

lay-out of the communication and the viewing context (such as a message-dense environment that taxes attention and cognitive capacity).

Specifically, a social influence analysis begins by reviewing relevant marketing communications. Next, it identifies and applies general concepts of consumer behaviors as well as specific principles of social cognition and social influence being invoked and used in the communication. To aid in assessing the impact of a message, a social influence analysis also identifies and evaluates any source of extrinsic evidence (e.g., external research, company data, along with other evidence) that may shed additional light on how consumers understand a message. After preliminary conclusions are drawn, the analysis employs the scientific norm of evaluating alternative hypotheses about the influence processes. The end-result of a social influence analysis is a description of how the marketing communication is likely to impact a reasonable consumer, including the net impressions that a consumer is likely to take away from the communication.

A critical component of a social influence analysis is the concept of a reasonable consumer. The reasonable consumer, for the purpose of my analysis, is one targeted by the marketing communication and who lives her or his everyday life of typical media habits, work, family activities, daily chores, along with other pursuits, and responds to a marketing communication in a reasonable, typical manner. In other words, the reasonable consumer is the ordinary consumer acting reasonably under the circumstances. The science of social influence and of consumer behavior provides an understanding of how consumers typically act in response to marketing communications. This understanding of a reasonable consumer is consistent with work in consumer psychology (see Preston, 1983).

Consumers live in a message-dense environment where they receive hundreds of persuasive communications in any given day (Pratkanis & Aronson, 2001). This message-dense environment taxes the attentional and cognitive capacities of consumers along with the amount of time and energy they can spend on each communication. This makes it difficult, if not impossible, for the consumer to analyze and process each and every message in depth and in detail (Baumgardner, Leippe, Ronis, Greenwald, 1983; Pratkanis & Greenwald, 1993; Webb & Ray, 1979.) As such, it is important to remember that a typical consumer is not looking at a marketing communication in isolation and as an object of detailed study, but in an environment with competing demands for her or his attention. Instead, the reasonable consumer living in a message-dense environment takes away meanings from a marketing communication in a manner consistent with the principles of consumer attention, information processing, and persuasion identified by the science of consumer behavior and of social influence.

My conclusions in this declaration are based on the concepts and principles summarized above, and my expert knowledge in the field of marketing and consumer behavior (including social influence tactics). I hold the opinions in this declaration to a reasonable degree of scientific certainty. I reserve the right to revise and expand my opinion should additional materials become available in this matter.

Two Influence Strategies with One Goal: The Sale of Fossil Fuels

In order to sell fossil fuels, defendants employed two influence strategies, both singularly and in combination: doubt and green messaging.

The goal of a doubt campaign is to create an information environment where the truth cannot be known. It accomplishes this goal by flooding a target with misleading, false, and faked information such as fake facts, false stories, phony “research,” half-truths, and a barrage of untruths coupled with attacks on what is true. In terms of marketing fossil fuels, a doubt campaign is designed to raise doubt and uncertainty about whether or not climate change is occurring and, if it is, raise doubt and uncertainty as to the role of the burning of fossil fuels as the cause of that change (i.e. doubt about the human causes of climate change). The marketing goal of a doubt campaign is to remove a product attribute that many consumers have come to view as important – taking responsible action to reduce climate change (see section on green messaging describing the evidence on the importance of environmental responsibility). By removing this attribute from consideration, consumers can continue to purchase fossil fuels without concern over its environmental impact.

The goal of green messaging and greenwashing (green messaging that is misleading or false) is to portray a brand, product, manufacturer, corporation, and other business aspects as promoting and achieving positive environmental goals. It accomplishes this goal by providing the target with information of the positive steps a fossil fuel seller is doing to save the environment. In terms of the marketing fossil fuels, a green messaging campaign is designed to alleviate a consumer’s fear and guilt over using a product that damages the environment and contributes significantly to climate change. Given that the climate change problem has been or is being “solved,” the consumer believes that he or she can continue to use the product.

While both doubt and green messaging campaigns can be effective independently, they gain additional effectiveness when used in combination to appeal to different marketing segments. A doubt campaign creates and appeals to a market segment that doesn’t believe that climate change is happening or believes it is happening but not due to human causes. A green messaging campaign assures those who believe in human-caused climate change that a solution is near at hand and that they can continue to use fossil fuels. The tobacco industry pioneered this dual influence strategy to continue sales of its disease-producing products. A doubt campaign was used to raise uncertainty about the scientific finding that smoking causes cancer and other diseases. Low tar, lights, “safer” cigarettes, and “safer” delivery mechanisms were launched to appeal to those who understood smoking caused diseases and to reassure these consumers that the problems have been mitigated and even solved. Thus, recipients of both the doubt and the safer cigarette campaigns could continue to purchase the product without fear of disease.

In the next two sections, I will describe the defendants’ use of these two influence strategies and their impact on consumers. I will conclude by providing an overview of how these campaigns can be built on misleading marketing communications, which in turn create additional misleading conclusions about climate change.

What is a doubt campaign and how does it impact a consumer?

A doubt campaign is a marketing and information campaign that floods the information environment with false, deceptive, misleading, and distracting information such that the target cannot make a decision and often reaches a wrong conclusion (Michaels, 2008; Oreskes &

Conway, 2010; Pratkanis, 2025). Such campaigns have two goals: First, a doubt campaign prevents a target from recognizing the truth and thus prevents and/or delays taking action based on that truth. Second, a doubt campaign can also result in possibly false and misleading net impressions about a product, a marketer, as well as those who raise concerns (such as scientists).

The doubt campaign as a form of influence was pioneered in the 1950s by the tobacco industry as a response to smoking as a cause of disease. (At roughly the same time, the Soviets pioneered a similar approach termed a *dezinformatsiya* campaign; see McCauley, 2016; Pratkanis, 2025; Rid, 2020). Indeed, the name “doubt campaign” comes from a 1969 Brown and Williamson document, which proclaimed, “Doubt is our product since it is the best means of competing with the ‘body of fact’ that exists in the minds of the general public. It is also a means of establishing a controversy” (Michaels, 2008, p. x). The tobacco industry founded the Tobacco Industry Research Council to manufacture uncertainty by questioning every scientific study, promoting other causes for tobacco-related diseases, cherry-picking evidence to paint a false story, demanding more evidence before any action is taken, co-opting legitimate scientists and organizations, and issuing a flood of irrelevant and/or false reports raising doubts about scientific evidence (see pp. 8–9 in Michaels, 2008; Judge Kessler’s decision in *United States v. Philip Morris USA*, 2006). For those worried about their health, tobacco sellers offered sham solutions of supposedly light (Pollay & Dewhirst, 2002) and safer (Pratkanis, 2006) cigarettes.

The doubt campaign orchestrated by defendants consists of a number of ploys to create doubt and uncertainty about the nature of climate change (see also Goldberg & Vandenberg, 2021). Some (but not all) of these ploys included: (a) make the debate over the “science” and the “evidence” and not the problem and possible solutions (e.g., the 1994 Shell report entitled “The Enhanced Greenhouse Effect: A Review of the Scientific Aspects” emphasizing the “scientific” uncertainty of climate change causes; see also Imperial Oil (ExxonMobil) CEO Robert Peterson statements in the 1998 Imperial Oil Review, “A Cleaner Canada; Mobil’s (ExxonMobil) advertorials); (b) flood the information environment with marketing communications repeatedly stating that the scientific evidence about climate change is not true (e.g., the 1991 Information Council for the Environment advertising campaign; API’s 1996 report; Mobil’s (ExxonMobil) advertorials); (c) use the created uncertainty as a means of delaying climate actions (e.g., Exxon’s 1996 publication called “Global Warming: Who’s Right?”; Imperial Oil (ExxonMobil) CEO Robert Peterson statements in the 1998 Imperial Oil Review, “A Cleaner Canada); (d) turn climate change into a positive or natural event (e.g., Exxon’s 1996 publication called “Global Warming: Who’s Right?”); (e) question every fact or study, dissect every method, and dispute every scientific and evidence-based conclusion (e.g., Exxon’s 1996 publication called “Global Warming: Who’s Right?” challenging computer models of climate change); (f) attack scientists, journalists, etc. and those attempting to act on scientific findings and evidence (e.g., Exxon’s 1996 publication called “Global Warming: Who’s Right?” statements about the use of bad science by those attempting to draw attention and explain climate change); (g) raise fear about change (e.g., API’s 1996 report; Exxon CEO Lee Raymond’s 1997 speech to the World Petroleum Congress; Mobil’s (ExxonMobil) advertorials); (h) disparage alternatives to the use of fossil fuels (e.g., API’s 1996 report statements on alternative energy); (i) provide false alternative explanations for climate change (e.g., Exxon CEO Lee Raymond’s 1997 speech to the World Petroleum Congress noting that most greenhouse gases come from natural causes); (j) co-opt and promote fringe scientists to undermine the perception of the scientific consensus on climate change; (k) create front

organizations to promote doubt about climate change (e.g., Global Climate Science Team”); (l) fund “think tanks” to push doubt about climate change (e.g., Competitive Enterprise Institute, the Heartland Institute, Frontiers for Freedom, Committee for a Constructive Tomorrow, George C. Marshall Institute, and Heritage Foundation); (m) offer fake solutions to make it appear there is no problem or that the problem is resolved (e.g., API internal memo of Apr. 3, 1998 emphasizing the positive long-term actions of energy corporations to combat climate change; see also next section on green messaging); and (n) omit in marketing communications mention of the true risks of the continued use of fossil fuels.

These ploys were designed to promote the belief in consumers that that climate change is not real and/or that there is scientific controversy about whether climate change is occurring or that it has human causes. The doubt raised by defendants about the role of fossil fuels in causing climate change is instrumental to the continued sale of their products to consumers.

As detailed in the next section on green messaging, many consumers perceive addressing climate change as one of the most important issues facing society today. In other words, consumers value corporations and products that are environmentally-responsible. Thus, a corporation can gain a sales advantage by promoting its product as good for the environment (as in green messaging) and also by removing the need for taking environmentally-sound actions in the first (as a result of a doubt campaign). A campaign to raise doubts about climate change alters a consumer’s decision making to remove the product attribute of “environmentally-responsible” from the need to be considered in the purchase decision. As such, the consumer does not need to consider the oil company’s record on environmental issues, including on climate change. By removing the product attribute of “environmentally-responsible” from the need to be considered by the consumer, the oil corporation can effectively meet core marketing goals including building the company’s positive brand image, positive perceptions of the brand, brand loyalty to the brand and its products, customer satisfaction, among other goals, which ultimately leading to purchase and sales.

What is green messaging and how is it important to consumers?

Green messaging refers to marketing communications designed to show the brand, product, manufacturer, corporation, and other business aspects as promoting and achieving positive environmental goals. Some examples of green messaging include: (a) a given product is helping to reduce greenhouse gas emissions; (b) a company is continually developing products that enable customers to reduce their energy use and CO₂ emissions; (c) a company is working to decrease its overall carbon footprint; (d) a company is looking for alternative forms of energy that are better for the environment such as algae farms, switchgrass, crop waste, and bio fuels; (e) a company that is investing in clean energies such as wind and solar; (f) a company that plans to reduce greenhouse gases in the future; (g) a company that shows demonstrated leadership in carbon capture and emissions reduction technologies; and (h) certain fossil fuel products benefit the environment.

In a nutshell, green messaging is important to some consumers, impacts the behavior of these consumers, and is regularly employed by fossil fuel companies.

The oil industry's doubt campaign continues to have impact on consumers, as some continue to doubt the scientific consensus on human-caused climate change. However, some consumers have come to understand that addressing climate change is one of the more important issues facing society today. For example, a survey conducted by the American Psychological Association (2020) found that more than half of U.S. adults (56%) say climate change is the most important issue facing society today. The survey also found that more than two-thirds of adults (68%) express anxiety or worry about climate change and its effects, and 7 in 10 are concerned that they are not doing enough and say they wish that there were more they could do to combat climate change. In surveys conducted by Edelman (2022), 66% of Americans say "I worry about climate change leading to drought, rising sea levels, and other natural disasters", and, across 14 nations, many respondents are concerned that they are not doing enough, with 85% expressing a gap between "my current lifestyle and how climate friendly I would like it to be."

An experiment conducted by the Behavioural Insights Team (Dutta-Powell, Rhee, & Wodak, 2023) demonstrates how these environmental concerns can be translated into effective marketing communications to improve the green reputation of energy companies. In this experiment, research participants were shown three ads about a fictitious energy company. One green message ad touted the company's offices as using green energy, while ignoring the climate impact of the energy company's core business. The second green ad focused attention away from the company's environmental impact by encouraging the reader to calculate her or his carbon footprint using an online calculator. The control ad focused on how the company was creating thousands of jobs. (In addition to these treatments, the experiment also included two sets of communications for mitigating the impact of misleading green ads; in reporting the results, I focus on the ads that did not include these mitigating strategies).



Ads used in Dutta-Powell, Rhee, & Wodak, 2023

The results showed that the green messaging was effective. Compared to the control company, participants were significantly more likely to agree that the companies portrayed in the green message ads had higher green credentials (defined in the study as a company that helps protect the environment, is actively reducing its impact on climate change, and is environmentally-friendlier than other competing brands).

The effectiveness of green messaging was also demonstrated in an experiment conducted by Friedman and Campbell (2023). In their experiment, participants were shown two actual 30-second TV ads featuring a green message: (a) a BP ad that featured the tagline, “Keep Advancing” with a voiceover promoting BP’s network of fast charging stations for electric cars as well as its work developing “advanced fuels” and (b) an ExxonMobil ad that featured the tagline, “Advancing Climate Solutions” with a voiceover describing a plan to reduce ExxonMobil’s greenhouse gas emissions by 30% by developing “low-carbon technologies.” Participants in the control group did not view these ads. (In addition, there was also a treatment that attempted to mitigate the impact of these ads). The results showed that viewing the two green ads significantly increased participants’ belief that oil and gas companies are putting much effort into transitioning to renewable energy and are making progress in this transition to renewable energy.

The effectiveness of green messaging in meeting multiple marketing objectives can also be seen in evaluations and tests of green messages disseminated by fossil fuel companies from around 2015 to 2020. For example, the 2020 ExxonMobil’s Natural Gas “Peanut Butter & Jelly” campaign set its marketing communication objective as increasing in the target audience (especially Gen Z) an understanding of the role that “natural gas provides for America’s lower emission power grids by demonstrating that cleaner burning natural gas works alongside renewables; and, that ExxonMobil is a key provider of natural gas.” (Appendix 2 of House Natural Resources Committee Staff Hearing Report of September 14, 2022, p. 28). The green messaging of the campaign used a metaphor/analogy to make the comparison with classic food pairings – in this case peanut butter and jelly – to natural gas and renewables, to communicate that one cannot exist without the other. The results: the videos used in the campaign outperformed the typical social media video in terms of View Through Rate (VTR) indicating that the content, including the natural gas green message, resonated well with Gen Z. The goals of ExxonMobil’s “Unexpected Energy” campaign, which appeared over 12 weeks in the *New York Times* using a voice that mimicked the *Times*’ journalistic style, consisted of: (a) drive awareness of ExxonMobil’s commitment to the research and development of lower emissions energy through next-gen biofuels, (b) develop a positive brand perception of ExxonMobil, and (c) increase favorability (Appendix 3 of House Natural Resources Committee Staff Hearing Report of September 14, 2022). The results: 862K views of the content (40% above plan), over 17 million downloads of “The Daily” podcast (85% above plan) featuring the ExxonMobil audio ad, and 585k views of Biofuels videos, which increased ExxonMobil’s favorability rating with over a 10% lift in brand favorability.

Shell Oil Company has produced a number of award-winning marketing communications featuring green messaging. Shell’s “The Great Energy Challenge” campaign of 2015 targeted Energy Engaged Millennials (who are interested in what “makes the world tick”) with a green message that Shell is active in creating a ‘sustainable’ energy future (Shell Case Study, 2016). The results: the campaign generated over 5.5 million page views and over 1 million social interactions;

the videos received over 60,000 plays and 10,000 shares; a curated engagement activity called “The Custom Your Shot” assignments (i.e. picture a world without energy, show bright ideas in action, and depict future cities and energy ideas) received over 15,000 submissions and generating over 1,000 discussion threads. Shell’s “Best Day of My Life” campaign of 2016 used both digital media and events to showcase a wide range of energy ideas in action (such as capturing kinetic energy from footsteps and generating energy from coffee waste) to show that Shell was addressing future energy needs (Shell Case Study, 2017). The results: viewed 396 million times with 4.1 million shares, audiences exposed to “Best Day of My Life” were 80% more likely to view Shell as actively addressing future energy needs. Shell’s “Make the Future” campaign of 2017, conducted in collaboration with *National Geographic*, set the goal of shifting perceptions of Shell to be perceived as a positive influence in providing the world with cleaner energy solutions and sustainable energy (Shell Case Study, 2018). The results: the documentary and TV campaign was seen by 36 million people; the digital campaign reached an additional 20 million people; social posts were seen and engaged with by 12 million people; video completion rate was 23% (400% higher than the average benchmark); and the content gathered more than 32k likes and shares on Facebook.

An evaluation of a BP green campaign targeting key opinion formers and leaders found that it increased trust in BP (by 8-12 points relative to a non-exposure control), perceptions that BP is a leader in developing low-carbon products, services, and business (by 7-11 points), BP’s brand favorability (by 20 points), and that BP is achieving the dual challenge of meeting increased energy demand while reducing emissions (by 10 points). The findings also showed that (a) BP was ranked ahead of electric car company Tesla as a contributor to the future of mobility, (b) 59% of respondents thought BP was leading the introduction of EV charging, and (c) 60% consider natural gas as a partner to renewable energies (WPP, 2020).

There is also empirical evidence that some consumers will pay more for a green brand of product. A number of surveys show that consumers desire green brands and a segment of the market indicates it is willing to pay more for green products. In a 2024 consumer survey conducted by PricewaterhouseCoopers (PwC; 2024), 79% of consumers stated they would pay more for a product with a lower supply chain carbon footprint. A 2023 survey by Specright (2023) found that “More than half (58%) of consumers indicated they are willing to spend more money on products that are deemed sustainable or environmentally friendly.” A 2019 survey by Coleman Parkes Research (2019) found that 47% of consumers wanted to do business with retailers that were environmentally conscious.

An experiment described by Kotler (2011) demonstrated how these consumer attitudes towards green brands translate into consumer purchase behavior. In this experiment conducted at Home Depot stores, consumers had a choice of plywood from two adjacent bins with one plywood bin labeled as Forest Stewardship Council (FSC; that is, wood from a sustainably-managed forest). The results of the study (Kotler, 2011, p. 134): “When the price of the wood was the same in both bins, nearly all the customers chose the plywood with the FSC label. When the FSC labeled plywood was priced 2% higher, still 37% of the customers chose the FSC- labeled plywood.” In other words, consumers desire environmentally-sound brands of products with some consumers willing to pay more for such brands.

A social influence analysis shows two of the ways green messaging is effective in changing consumer perceptions, decision making, and purchase behavior. As noted previously, survey research finds that some consumers are fearful (anxious and worried) about the impacts of climate change on the environment and feel guilty that they personally are not doing enough to mitigate or prevent climate change. These two emotions serve as the basis for two effective social influence tactics – fear appeals and guilt sells – that can be used in green messaging.

An effective fear appeal is one that (a) arouses intense fear, (b) offers a specific recommendation for overcoming the fear, and (c) the target believes he or she can perform the recommendation (Leventhal, 1970, Maddux & Rogers, 1983). In other words, an influence agent can promote favorable beliefs and attitudes and increase compliance (sales) by making it appear that a given action is a doable response to cope with a fear. Climate change is producing devastating effects on the environment and on human society that will only increase over time. It is reasonable for a reasonable consumer to fear for a future that occurs as a result of human-induced climate change. Green messaging can provide doable responses to cope with this fear – purchasing a product that is perceived to reduce greenhouse gas emissions and buying from a company that is perceived to be developing alternative forms of energy, investing in clean energy, reducing its carbon footprint, using carbon capture, and engaging in research and having a plan to reduce greenhouse gases in the future, among other pro-environmental actions. Green messaging about fossil fuels also helps alleviate another fear held by a sizeable minority of consumers – that taking personal action on climate change means giving up almost all of the activities that bring pleasure in life (Edelman, 2022). A green message about fossil fuels may convey that continuing current activities (such as driving a car) will have little if any impact on the environment given the progress that is being made by energy companies, thus alleviating the fear of having to change one's lifestyle.

Guilt is the feeling of responsibility for some wrongdoing or transgression. Guilt induces a desire to make restitution and to repair a self-image (Carlsmith & Gross, 1969). It can be used as a social influence tactic by turning the act of restitution and image-repair into an act of compliance (Pratkanis & Aronson, 2001). Given the devastating effects of human-induced climate change, it is reasonable for a reasonable consumer to feel guilt that he or she is not doing enough to prevent (or at least mitigate somewhat) these negative changes. A green message provides a means of dealing with these feelings of guilt by making restitution (purchasing green products from green companies as a way of restoring the damage caused by using non-green products, particularly fossil fuels) and by repairing a self-image (“See, I am doing my best to prevent climate change by purchasing these products from these companies”).

How can a marketing communication lead consumers to draw misleading inferences?

How do consumers take away meaning (net impression) from a marketing communication? Consider this advertised statement (an anonymous version of a real advertised claim): “No other aspirin has proven to be more effective than Brand X.” A reasonable consumer would take away the net impression that Brand X is the most effective aspirin money can buy – it is the best. While this advertised claim is literally true, such a take-away would have the tendency and capacity to mislead a reasonable consumer because all brands of aspirins are exactly the same. The converse statement is also equally true: “No other aspirin has proven to be less effective than Brand X.”

From the consumer's perspective, it makes little difference if the claim is made explicitly (Brand X is the best aspirin) or implicitly (No other aspirin has proven to be more effective than Brand X), the take-away is the same: Brand X is the best. If the take-away does not match reality (i.e. Brand X is not the best because all brands are the same), then the marketing communication has the tendency and the capacity to mislead a reasonable consumer. The consumer now accepts and believes a falsehood about the brand (or other marketing elements) and thus incorporates that falsehood into perceptions and decision making.

The aspirin example is a good illustration of a phenomenon that is well known to marketers and psychologists: consumers often take away a meaning from an advertisement that is different than the literal text. In other words, even though a particular advertisement may say "X" (e.g. "none more effective"), a consumer viewing that advertisement may be left with an impression of "Y" (e.g. "the best").

In taking away meaning from marketing communications (and indeed from text and conversation in general), consumers follow Grice's conversational norms to make inferences about what the communication is about (Grice, 1989; Higgins, 1981; Levinson, 1983; 2000; Miller & Stiff, 1993; for marketing applications see Hastak & Mazis, 2011 and Miller & Kahn, 2005). According to Grice, communicators are expected to follow a conversational norm of cooperation with the target of the message so that the message can be understood. This conversational norm is obtained by following these maxims:

- a. Quality: A communicator should convey the truth as he or she sees it and refrain from providing information that is known to be false or inaccurate
- b. Manner: A communicator should try to be understood, especially by providing information in a concise, orderly fashion that attempts to avoid ambiguity and confusion
- c. Quantity: A communicator should provide the right amount of information – neither give too much or too little information to be understood
- d. Relevance: A communicator should provide information that is relevant to the topic or issue discussed.

Each of these maxims singularly and in combination can result in a misleading and deceptive communication. For example, the Quality maxim of "convey the truth as the speaker sees it" implies that the speaker is trying to communicate truthful information and has reasons for stating the communication as the truth. The Manner maxim of "try to be understood" involves providing clear and relevant information in the most prominent way for the recipient to understand what is being said. The Quantity maxim of "give the right amount of information" indicates that the communication contains all the essential information needed to understand the message – there are no glaring omissions and there is no irrelevant information provided. The Relevance maxim of "be relevant" implies that if information appears in a communication it is most relevant to understanding the meaning of the communication. Thus, a consumer (or person in general) will conclude that all the information needed to draw a valid inference of what is being said has been provided. To the extent that this norm and these maxims are not followed, then a reasonable consumer has a tendency and capacity to draw misleading inferences and thus to be deceived.

To illustrate Grice's principles, the statement, "No other aspirin has proven to be more effective than Brand X," violates the relevance maxim (that the comparison of Brand X to other aspirins is relevant for consumer choice), quality (that Brand X has reasons for why it is the best), manner (the statement is ambiguous since its converse is equally true), and, importantly, the quantity maxim, as it provides both too much information (a meaningless comparison to other brands) and too little information (omitting that all brands of aspirin are the same).

Although people follow the maxims of Grice's conversational norm and maxims for inferring the meaning of a communication, when these rules are perceived to be violated and broken, a communication is most likely to be deemed deceptive (Miller & Stiff, 1993). Such a state of affairs can lead to consumer cynicism. A sophisticated marketer will monitor for negative effects of its marketing communications (via focus groups, surveys, content and sentiment analyses of social media, among other methods) and will take corrective action as needed (for example, changing message, undermining and attacking critics, using third-party interventions and testimonials, among other means).

In accordance with Grice's norms and maxims, green messaging can also be misleading when the consumer take-away does not match reality. This is referred to by some as "greenwashing." In a similar manner, a doubt campaign can also be misleading when the consumer take-away (i.e. climate change is not real and not due to the burning of fossil fuels) does not match reality.

In the current messaging-environment on climate change, consumers report, in addition to doubt about climate change, that they are uncertain what really works to reduce or prevent climate change. For example, among those consumers who would like to do more to protect against climate change, Edelman (2022) finds that 77% agree with the statement: "I am unsure which options are more climate friendly," and consumers in general report that it is difficult to find real, trustworthy solutions to climate change. The uncertainty of consumers about effective climate change measures facilitates misleading and deceptive green messages since consumers in general have a difficult time identifying real from fake solutions.

Research in the fields of the science of cognitive processes and consumer behavior have identified a number of common ways that consumers can be misled (via violations of Grice's maxims), especially by a marketing communication (Burke, DeSarbo, Oliver & Robertson, 1988; Geis, 1982; Harris, 1977; Harris, Dubitsky, Perch, Ellerman, Larson, 1980; Harris, Trusty, Bechtold, & Wasinger, 1989; Hastak & Mazis, 2011; Preston, 1989; 1994). Doubt and green messages can have the tendency and capacity to mislead and deceive in numerous ways, including, among others:

- *Proof and reasonable basis implications:* When a marketing claim is made, there is a tendency to infer that the marketer making the claim has proof for the claim (such as scientifically-valid evidence to back the claim) or a reasonable basis for making the claim. In terms of green messaging, a reasonable consumer would infer that the marketer has evidence or a reasonable basis for making claims such as a given technology or brand will bring about a low or carbon-free future or will have a major impact on reducing greenhouse gases. To the extent that these efforts have no or negligible impact on climate change, a

reasonable consumer would be misled. Similarly, a consumer would infer that a marketer making the claim that there is no scientific basis for climate change (or similar doubt-inducing statements) has a reasonable basis for the claim.

- *Hedging*: A hedge is a word or phrase that attempts to qualify the meaning of a claim or statement. Hedges are generally ineffective in qualifying a claim because hedging phrases tend to drop out of a message, are ignored (e.g., have limited impact on belief), and tend to be remembered as unqualified statements. For example, the phrase, “may help prevent smoking-related diseases,” is a hedged claim that a consumer would take to mean, “prevents smoking-related diseases.” Similarly, for statements such as a fossil fuel company has a *plan* for reducing greenhouse gases, is *working* to make energy that’s cleaner, and *intends* to develop wind farms, and natural gas can *help* meet the growing global demand for sustainable energy, the hedge words (plan, working, intends, help) drop out and leave the net impressions of a fossil fuel company that is reducing greenhouse gases, making energy that is cleaner, and developing wind farms and that natural gas is sustainable energy. This is particularly the case when hedged statements are paired with images (such as company employees walking through algae ponds), which imply that the climate change efforts are further along than they actually are.
- *Ambiguous labels and phrases*: The use of terms with multiple and/or unclear meaning to a consumer can imply more than a technically correct definition of the term. For example, net zero operations (specific changes to the production of oil) can imply more extensive changes and net zero for both the production and use of the product; “carbon emissions” (which technically means carbon dioxide) can imply reduction in carbon dioxide and methane and in greenhouse gases in general; reducing operational and upstream business emissions (technically components of oil production) may be seen as entailing more extensive changes to include emissions due to products. In the context of a communication about meeting larger climate change goals, ambiguous terms are more likely to result in stronger pro-environmental inferences (as opposed to the more specific technical definitions).
- *Expertise implications*: An expert is someone who is perceived to have specialized training and knowledge; when such experts are included in a marketing communication, a reasonable consumer takes away the inference that the claim is backed by those experts and their field of expertise. For example, doubt messages showing experts who disagree with the scientific consensus on climate change implies that there is a controversy over climate change. Similarly, green messages on research and investments in climate change solutions that includes experts (such as scientists in research settings) implies that science is backing such claims and thus there is reason to believe that the advertised research and investments will result in meeting positive climate goals.
- *Misleading associations*: An association is the linking of one object or idea to another positive or negative entity in order to transfer the meaning from one to the other. It becomes misleading when this transfer of meaning is not consistent with reality. For

example, linking an ostensible green product or green initiative (e.g., research and investments in fossil fuel alternatives) with scenes from nature and a clean, picturesque environment transfers a positive environmental meaning to the product or initiative. To the extent that the product or initiative does not deliver the associated nature imagery, then the message has a potential tendency and capacity to mislead.

- *Significance implications:* When a true but insignificant fact is literally stated or implied, a reasonable consumer will take away the false implication that it matters or should matter to the consumer. For example, a fossil fuel corporation's marginal improvements in, say, operational emissions, implies to the consumer that this is a significant and important effort for solving the climate change crisis. Similarly, pointing out a small, but irrelevant problem with a study on climate change can lead a reasonable consumer to take away a false implication that the study is seriously flawed.
- *Juxtaposing:* When two independent statements are put together, a consumer has a tendency to infer a causal or associative relationship. For example, the juxtaposed statements "Get through the whole winter without colds" and "Take Eradicold," are taken to mean that taking Eradicold will prevent colds (even though the literal interpretation does not state that meaning). Similarly, a statement such as "With natural gas, U.S. carbon emissions are at the lowest levels in a generation," implies that natural gas is *the* cause of this reduction in carbon emissions. General statements of positive climate change goals (e.g. low and carbon-free future, net zero carbon economy, the world needs fewer emissions) juxtaposed with various ostensibly green brands of products and corporate initiatives such as investment and research in algae, biofuels, alternative energy, and the like implies that those brands and initiatives will result in a world where greenhouse gases do not negatively impact the environment.
- *Incomplete comparison:* An incomplete comparison is one where the comparison point and/or comparison attribute is not specifically disclosed such as "Brand X is better" and "Brand Y will get your dishes cleaner." Shimp (1978) found that incomplete comparatives in an ad are often used by consumers to incorrectly infer that a product is superior to competitors. For example, phrases such as "cleaner energy alternatives" and "lower emission power grids" are incomplete comparisons (compared to what? a 1950's coal plant or solar and wind or something else?) that have the tendency to lead a consumer to infer that the initiative is superior to competitors (such as solar and wind power) in reducing greenhouse gases.
- *Selective omission of important facts:* Given, based on Grice's maxims, that consumers assume that all relevant information is provided, when a key (material) fact or facts are omitted, there is a strong propensity for a reasonable consumer to be misled. For example, omitting the role of fossil fuels in creating climate change would lead a consumer to take away the impression that fossil fuels play no or a limited role in climate change. Similarly, stating that hydrogen fuel cell vehicles emit nothing from their tailpipes but water vapor (a true statement) would lead a reasonable consumer to take away the impression that

hydrogen fuel is zero-emissions and thus a major advance for reducing climate change. However, adding the omitted information that hydrogen fuel is produced by a process that releases significant amounts of greenhouse gases would result in a quite a different take-away and net impression of the value of hydrogen fuel cell vehicles.

Several peer-reviewed papers have cited one or more of these methods when identifying greenwashing techniques used in corporate advertising, including advertisements by fossil fuel companies (e.g., Li, Trencher, & Asuka 2022; Lyon & Montgomery 2015).

While a doubt campaign about fossil fuel provides little of value to a consumer, green messaging can serve a vital consumer need and want by informing the consumer of a means, such as purchasing a brand of product, for reducing the consumer's negative impact on the environment. In this context, a deceptive and/or misleading green message (greenwashing) can have extensive adverse consequences for competitors, consumers, and, of course, the natural environment that humans must live in. Competitors who truly develop better products and means for reducing climate change must compete with consumer doubts, empty solutions, and potentially reduced demand for their products as consumers believe that other products are solving the climate crisis or the problem doesn't exist at all. Marketers in general must deal with the distrust created by deceptive marketing (Darke & Ritchie, 2007; Di Domenico & Ding, 2023). Consumers are induced to continue to use fossil fuels in the belief that there is doubt as to whether climate changing is occurring or that it is caused by the use of fossil fuels. Consumers are induced to purchase brands of products that they believe will help mitigate the negative impact of climate change when, in fact, these products do little or nothing to help and may actually harm the environment. Meanwhile, human-induced climate change continues to wreak havoc with the environment and, ultimately, with the human beings that must now live and cope with the devastating effects of human-induced climate change.

I declare this 6th day of May, under the penalties of perjury under the laws of Hawai'i, which may include a fine or imprisonment, that the foregoing is true, and I understand that this document may be filed in an action or proceeding in a court of law.

A handwritten signature in black ink, appearing to read 'Anthony R. Pratkanis', written over a horizontal line.

Anthony R. Pratkanis, M.A., Ph.D.

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Appendix A:
Professional Vita of Anthony R. Pratkanis

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EDUCATION

1975-79: Eastern Mennonite College
B.S. in Psychology, Sociology, Social Work (*summa cum laude*)

1979-84: The Ohio State University
M.A., Ph.D. in Social Psychology; minor fields of Cognitive Psychology, Statistics

EMPLOYMENT HISTORY

1978-1979: Intern, National Association of Social Workers
1979-1981: Graduate Research Associate, The Ohio State University (with A. G. Greenwald)
1981-1982: Graduate Teaching Associate, The Ohio State University
1983: Research Associate, The Ohio State University (with A. G. Greenwald)
1983-1984: Post-Doctoral Fellow in Marketing and Psychology, Carnegie-Mellon University
1984-1987: Assistant Professor of Industrial Administration and Psychology,
Carnegie-Mellon University
1987-1991: Assistant Professor of Psychology, University of California, Santa Cruz
1991-1995: Associate Professor of Psychology (tenure), University of California, Santa Cruz
2004-2007: Visiting Professor of Information Sciences, Naval Postgraduate School
2008-2009: Fellow, University of Southern California Center on Public Diplomacy
1995-2018: Professor of Psychology, University of California, Santa Cruz
2018- Emeritus Professor of Psychology, University of California, Santa Cruz

SPECIAL FIELDS

Social Psychology
Social influence, persuasion, & propaganda
Attitude structure and function, attitudes & behavior
Prejudice & prejudice reduction (affirmative action)
Consumer Psychology (mass communications, consumer protection, & economic fraud)
Research Methods (research strategy, experimental method)

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Greenwald, A. G., Banaji, M. R., Pratkanis, A. R. & Breckler, S. J. (1981, November). *A centrality effect in recall*. Psychonomic Society, Philadelphia, PA.

Pratkanis, A. R. & Greenwald, A. G. (1982, April). *A reawakening of the sleeper effect in persuasion?* Eastern Psychological Association, Baltimore, MD.

Pratkanis, A. R. & Greenwald, A. G. (1982, August). *Cognitive structure and the sleeper effect: A progress report*. In D. Romer (Chair), "Cognitive structure and attitude change," symposium at American Psychological Association, Washington, DC.

Breckler, S. J. & Pratkanis, A. R. (1983, May). *Self-referent decision making: A multidimensional representation*. Midwestern Psychological Association, Chicago, IL. (ERIC Document Reproduction Service No. ED 236 506).

Pratkanis, A. R. & Greenwald, A. G. (1983, May). *Towards a reliable sleeper effect in persuasion*. Midwestern Psychological Association, Chicago, IL.

Isen, A. M., Pratkanis, A. R., Slovic, P. & Slovic, L. (1984, August). *The influence of affect on risk preference*. In S. Agres (Chair), "Emotionality in advertising and consumer behavior," symposium at American Psychological Association, Toronto, Ontario.

Pratkanis, A. R. (1984, August). *Attitude structure and selective learning*. In A. G. Greenwald (Chair), "Attitude structure and function," symposium at American Psychological Association, Toronto, Ontario.

Pratkanis, A. R. & Breckler, S. J. (1984, October). *The structure and function of consumer attitudes*. In A. Mitchell (Chair), "Recent developments in attitude research," symposium at Association of Consumer Research, Washington, DC.

Pratkanis, A. R. (1985, May). *The influence of attitudes on social memory*. Conference on Attitudes and Social Influence, Nags Head, NC.

Farquhar, P. H. & Pratkanis, A. R. (1986, March). *Market phantoms and consumer choice*. Marketing Science Conference, Dallas, TX.

Pratkanis, A. R. (1987, May). *The cognitive representation of attitudes*. Invited presentation in, "Persuasion and influence," paper session at Midwestern Psychological Association, Chicago, IL.

Pratkanis, A. R., Syak, P. C., & Gamble, E. C. (1987, May). *The role of technical knowledge in attitudinal learning*. Midwestern Psychological Association, Chicago, IL. (ERIC Document Reproduction Service No. ED 285 106).

Pratkanis, A. R. (1987, May). *The attitude heuristic and selective fact identification*. Midwestern Psychological Association, Chicago, IL. (ERIC Document Reproduction Service No. ED 285 107).

Farquhar, P. H. & Pratkanis, A. R. (1987, August). *Decision research with phantom alternatives*. Subjective Probability, Utility, and Decision-Making Conference, Cambridge, England.

Pratkanis, A. R. (1987, August). *A social-cognitive model of attitude structure*. In R. Batra (Chair), "Research on the structure, function, and strength of consumer attitudes" symposium at American Psychological Association, New York, NY.

Farquhar, P. H. & Pratkanis, A. R. (1988, March). Phantom choices: The effects of unavailability on consumer decision-making. *Marketing Science Conference*, Seattle, WA.

Farquhar, P. H. & Pratkanis, A. R. (1988, April). *Decision structuring with phantom alternatives*. TIMS/ORSA Joint National Meeting, Washington, DC.

Pratkanis, A. R. (1988, October). *Attitude structure and function: A socio-cognitive analysis*. Society for Experimental Social Psychology, Madison, WI.

Farquhar, P. H. & Pratkanis, A. R. (1988, October). *Violations of regularity in consumer choice behavior*. Association of Consumer Research, Honolulu, HI.

Farquhar, P. H. & Pratkanis, A. R. (1989, March). *Decisive advantage choice models*. Marketing Science Conference, Durham, NC.

Pratkanis, A. R. & Turner, M. E. (1989, April). *Enacting social change and participation*. Fourth Applied Social Psychology Conference on "Social psychology and large-scale democratic change," University of California, Santa Cruz, CA.

Pratkanis, A. R. & Farquhar, P. H. (1989, May). *Phantom alternatives affect judgment and choice*. Midwestern Psychological Association, Chicago, IL.

Turner, M. E., Pratkanis, A. R., & Probasco, P. (1989, May). *The effects of threat and cohesion on groupthink*. Midwestern Psychological Association, Chicago, IL.

Turner, M. E., Pratkanis, A. R., & Hardaway, T. J. (1989, August). *Unintended consequences of preferential selection*. Academy of Management, Washington, D.C.

Pratkanis, A. R. (1989, October). *The psychology of phantom options*. Society for Experimental Social Psychology, Santa Monica, CA.

Farquhar, P. H. & Pratkanis, A. R. (1989, October). *Waiting for phantom products*. In L. Dube-Rioux & F. Leclerc (Chairs), "A behavioral approach to consumers' reactions to delays," Association of Consumer Research, New Orleans, LA.

- Pratkanis, A. R., Eskenazi, J., & Greenwald, A. G. (1990, April). *On the ineffectiveness of subliminal self-help audiotapes*. Western Psychological Association, Los Angeles, CA.
- Leve, C. & Pratkanis, A. R. (1990, April). *Where is the forewarning sleeper effect?* Western Psychological Association, Los Angeles, CA.
- Hardaway, T. J., Pratkanis, A. R., & Turner, M. E. (1990, April). *Preferentially selected, differentially evaluated: Observer interpretations of affirmative action*. Western Psychological Association, Los Angeles, CA.
- Pratkanis, A. R., Farquhar, P. H., Silbert, S., & Hearst, J. (1990, May). *Decoys produce contrast effects and alter choice probabilities*. Midwestern Psychological Association, Chicago, IL.
- Farquhar, P. H. & Pratkanis, A. R. (1990, May). *Consumer decision making with uncertain product availability*. The Institutes of Management Science/Operations Research Society of America, Los Vegas, NV.
- Douglass, D. S. & Pratkanis, A. R. (1990, June). *Superior recall of attitude-bolstering information*. American Psychological Society, Dallas, TX.
- Pratkanis, A. R. (1990, August). *Subliminal sorcery then and now. Who is seducing whom?* American Psychological Association, Boston, MA.
- Pratkanis, A. R., Turner, M. E., & Leve, C. (1990, August). *The impact of preferential selection on risky decision making*. American Psychological Association, Boston, MA.
- Pratkanis, A. R. & Aronson, E. (1990, October). *The age of propaganda*. Society for Experimental Social Psychology, Buffalo, NY.
- Turner, M. E. & Pratkanis, A. R. (1990, October). *The psychology of preferential selection*. Society for Experimental Social Psychology, Buffalo, NY.
- Turner, M. E. & Pratkanis, A. R. (1991, April). *Recipient responses to being "preferentially" selected*. Western Psychological Association, San Francisco, CA.
- Leve, C., Turner, M. E., & Pratkanis, A. R. (1991, April). *An empirical analysis of antecedents and consequences of group cohesion*. Western Psychological Association, San Francisco, CA.
- Pratkanis, A. R. (1991, May). *The cargo cult science of subliminal influence*. Meeting of the Committee for the Scientific Investigation of Claims of the Paranormal, San Francisco, CA.
- Turner, M. E. & Pratkanis, A. R. (1991, August). *Effects of preferential and meritorious selection on past performance: When the going gets effortful, the preferred relax*. Academy of Management, Miami, FL.

Santos, M., Leve, C., & Pratkanis, A. R. (1991, August). *Hey buddy, can you spare seventeen cents?* Mindfulness and persuasion. American Psychological Association, San Francisco, CA.

Farquhar, P. H. & Pratkanis, A. R., (1991, October). *The strategic use of phantoms*. Association for Consumer Research, Chicago, IL.

Douglass, D. S. & Pratkanis, A. R. (1992, June). *In pursuit of boundary conditions of the attitudes and selective learning effect*. American Psychological Society, San Diego, CA.

Turner, M. E., Pratkanis, A. R., Probasco, P., & Leve, C. (1992, August). *Threat, cohesion, and group effectiveness: Testing a collective dissonance reduction approach to groupthink*. Academy of Management, Los Vegas, NV.

Turner, M. E. & Pratkanis, A. R. (1992, October). *The social psychology of affirmative action*. Society for Experimental Social Psychology, San Antonio, TX.

Stone, J. & Pratkanis, A. R. (1993, April). *Does self-esteem moderate self-verification and self-enhancement motives?* Western Psychological Association, Phoenix, AR.

Pratkanis, A. R. & Turner, M. E. (1993, June). *Mr. Branch Rickey, Mr. Jackie Robinson, and the social psychology of affirmative action*. Fifth Cooperstown Symposium on Baseball and American Culture, Baseball Hall of Fame, Cooperstown, NY.

Stone, J. & Pratkanis, A. R. (1993, June). *Source credibility and self-confidence moderate the motivation for self-verification*. American Psychological Society, Chicago, IL.

Pratkanis, A. R., Wong, H., & Turner, M. E. (1993, June). *Negative consequences of preferential selection mitigated by reciprocated help*. American Psychological Society, Chicago, IL.

Turner, M. E. & Pratkanis, A. R. (1993, August). *Affirmative action as help*. Academy of Management Theory Development Workshop, Atlanta, GA.

Pratkanis, A. R. & Turner, M. E. (1993, October). *What did Mr. Branch Rickey know about successful affirmative action? -- Nine principles*. Society for Experimental Social Psychology, Santa Barbara, CA.

Turner, M. E. & Pratkanis, A. R. (1994, April). *Affirmative action as help*. Society for Industrial Organizational Psychology, Nashville, TN.

Turner, M. E., Pratkanis, A. R., & Hardaway, T. J. (1994, April). *Observer interpretations of affirmative action: The role of performance information*. Western Psychological Association, Kailua-Kona, HI.

Turner, E. A. & Pratkanis, A. R. (1994, April). *An experimental investigation of gender discrimination in childcare employment*. Western Psychological Association, Kailua-Kona, HI.

Pratkanis, A. R. (1994, May). *The Ostromian roots of the socio-cognitive model of attitude*. In C. Sedikides, A. G. Greenwald, R. E. Petty, & K. Williams (Chairs), "Attitudes, Person Memory, and Social Judgment: A Symposium in Honor of Tom Ostrom." Midwestern Psychological Association, Chicago, IL.

Pratkanis, A. R. & Turner, M. E. (1994, June). *Award acceptance speech*. [Recipient of a custom-made Cooperstown bat for work on Branch Rickey, Jackie Robinson, and the Integration of Baseball]. Sixth Cooperstown Symposium on Baseball and American Culture, Baseball Hall of Fame, Cooperstown, NY.

Pratkanis, A. R. (1994, June). *How to sell a pseudoscience*. Meeting of the Committee for the Scientific Investigation of Claims of the Paranormal, Seattle, WA.

Turner, M. E. & Pratkanis. (1994, July). *Groupthink as social identity maintenance: "Earthshaking" evidence from the field and laboratory*. American Psychological Association, Washington, D.C.

Pratkanis, A. R. (1994, October). *Elliot Aronson: An introduction*. Society for Experimental Social Psychology, Lake Tahoe, NV.

Pratkanis, A. R. & Turner, M. E. (1994, October). *Mr. Rickey's Brooklyn Dodger blueprint for intergroup integration*. Society for Experimental Social Psychology, Lake Tahoe, NV.

Turner, M. E. & Pratkanis, A. R. (1996, April). *A Groupthink debate*. Society for Industrial Organizational Psychology, San Diego, CA.

Pratkanis, A. R. & Turner, M. E. (1996, October). *Affirmative action as successful help*. Society for Experimental Social Psychology, Sturbridge, MA.

Pratkanis, A. R. (1997, April). *A scientific evaluation of affirmative action*. Invited address. Western Psychological Association, Seattle, WA.

Gliner, M. D. & Pratkanis, A. R. (1997, April). *When does a child know best? Altercasting and source credibility?* Western Psychological Association, Seattle, WA.

Horvitz, T., Pratkanis, A. R., & Melia, A. (1997, April). *The "ONE-IN-FIVE:" A test of a popular telemarketing tactic*. Western Psychological Association, Seattle, WA.

Pratkanis, A. R. (1997, August). *Propaganda and persuasion in mass-mediated democracies*. Conference on "The Practice of Social Influence in Established and Emerging Democracies." Przegorzaly-Krakow, Poland.

Turner, M. E. & Pratkanis, A. R. (1998, April). *Affirmative action and the illusory identification of incompetency*. Society for Industrial Organizational Psychology, Dallas, TX.

Pratkanis, A. R. (1998, April). *Weapons of influence used by fraudulent telemarketers*, in "An evolving partnership: The roles of government and the private sector in identifying and meeting the needs of economic crime victims" (Panel discussion). Economic Crime Summit sponsored by the U.S. Department of Justice, St. Louis, MO.

Pratkanis, A. R. & Turner, M. E. (1998, May). *Groupthink and preparedness for the Loma Prieta earthquake: A social identity maintenance analysis of causes and preventions*. Conference on "Research on Managing in Groups and Teams," Palo Alto, CA.

Pratkanis, A. R. & Rucker, D. D. (1999, April). *Liar! Liar? Whose pants on fire?* Invited address. Western Psychological Association, Los Angeles, CA.

Rucker, D. D. & Pratkanis, A. R. (1999, May). *Projection as an interpersonal influence tactic*. Midwestern Psychological Association, Chicago, IL.

Pratkanis, A. R. (1999, December). *Altercasting as a means of increasing and decreasing compliance in and thought about preventive intervention programs*. Conference on "Participation in preventive intervention programs: Theory and practices," Arizona State University, Tempe, AZ.

Turner, M. E. & Pratkanis, A. R. (2000, April). *Preventing groupthink: Further implications from a social identity maintenance perspective*. Society for Industrial Organizational Psychology, New Orleans, LA.

Pratkanis, A. R. (2000, May). *Some implications of the use of undue influence in the commission of economic fraud crimes*. in "Telemarketing offenders and victims" (Panel discussion). Economic Crime Summit, Austin, TX.

Pratkanis, A. R. (2001, October). *The altercast*. Society for Experimental Social Psychology, Spokane, WA.

Pratkanis, A. R. (2002, January 4-5). *Teaching about social influence in an age of propaganda*. National Institute on the Teaching of Psychology, St. Petersburg Beach, FL.

Pratkanis, A. R. & Small, B. (2002, May). *Protecting the victims of economic fraud crimes*. Economic Crime Summit, Washington, D.C.

Pratkanis, A. R. (2002, May). *The social psychology of extrinsic evidence and counterargument in advertising deceptiveness cases*. National Association of Attorneys General, Consumer Protection Spring Conference, Washington, D.C.

Pratkanis, A. R. (2002, May). *The social psychology of fraudulent and deceptive influence and what can be done to prevent it*. National Association of Attorneys General, Consumer Protection Spring Conference, Washington, D.C.

Turner, M. E., Pratkanis, A. R., & Samuels, T. (2002, November). *Identity metamorphosis and group decision-making under threat*. INFORMS: Institute for Operations Research and the Management Sciences, San Jose, CA.

Pratkanis, A.R. (2003, October). *A democratic response to the hostile propaganda of demagogues and dictators*. William K. Fung Multidisciplinary Workshop on “Communication with Skeptical Audiences – Challenges and Solutions.” Yaffe Center for Persuasive Communications at the University of Michigan. Ann Arbor, MI. Available at <http://webuser.bus.umich.edu/yaffecenter/Pratkanis.ppt>.

Pratkanis, A. R. (2004, April 3). *Fighting undue influence with influence: social psychology and the prevention of economic fraud crimes*. Thirty-Third Annual Western Psychology Conference for Undergraduate Research at Santa Clara University. Santa Clara, CA.

Pratkanis, A. R. & Turner, M. E. (2004, May). *A socio-cognitive model of job attitudes: Managerial and research implications*. Invited hot topic session: “It’s all in the attitude: Grounding job attitude research in basic attitude theory.” American Psychological Society, Chicago, IL.

Pratkanis, A. R. & Turner, M. E. (2004, November). *A socio-cognitive model of job attitudes: Managerial and research implications*. Invited symposium: “It’s all in the attitude: Grounding job attitude research in basic attitude theory.” Decision Sciences Institute, Boston, MA.

Pratkanis, A. R. (2005, July 27) Testimony to United States Senate Special Committee on Aging. *Hearings on Old Scams – New Victims: Breaking the Cycle of Victimization*. 106 Dirksen Senate Office Building. Washington, D.C.
(<http://aging.senate.gov/public/index.cfm?Fuseaction=Hearings.Detail&HearingID=71>).

Pratkanis, A. R. (2006, January 24). *The nature and the prevention of economic fraud crimes*. National Association of Attorneys General, Consumer Protection Winter Conference, Raleigh, NC.

Elias, S. M., & Pratkanis, A. R. (2006, January 26). *Hats, cans, PSYOPS, and spurters: Classroom demonstrations of social influence*. Society of Personality and Social Psychology Teaching Pre-Conference. Palm Springs, CA.

Pratkanis, A. R., Shadel, D., Kleinman, M., Small, B., & Pak, K. (2006, July 17). *Investor Fraud Study*. United States Security and Exchange Commission, Senior Summit, Washington, DC.

Pratkanis, A. R. (2006, September 18). *Panel on Improving Investors Use of Information in Preventing Fraud Crimes*. North American Securities Administrators Association. San Diego, CA.

Pratkanis, A. R., & Turner, M. E. (2006, September 25 & 26). *Mitigating the negative decision-making consequences of groupthink and other social pressures*. Presented on Capitol Hill and at the National Geospatial-Intelligence Agency (NGA). Symposia sponsored by the Office of

Analytic Integrity and Standards of the Office of the Director of National Intelligence, Washington, DC.

Pratkanis, A. R. & Shadel, D. P. (2006, October). *The Prevention of Economic Fraud Crimes: Social Psychology Takes on the Con Criminal*. Society of Experimental Social Psychology, Philadelphia, PA.

Pratkanis, A. R. & Shadel, D. P. (2008, April). *The Science of Social Influence Takes on the Con Criminal and Wins*. [Invited Address]. Southwestern Psychological Association, Kansas City, MO.

Pratkanis, A. R. (2010, August 12). *Weapons of fraud*. [Keynote Address]. The Skeptic's Toolbox, Eugene, OR.

Pratkanis, A. R. (2012, March 29-30). *Influence as a tool*. [Presenter and Panel Discussant]. 2012 John Breaux Symposium at the Louisiana State University, Baton Rouge, LA.

Pratkanis, A. R. (2012, October 14). *Why would anyone believe such a thing? An introduction to the science of social influence*. Association of Science - Technology Centers Annual Conference. Columbus, OH.

Pratkanis, A. R. (2012, October 27). *Weapons of fraud: How con criminals scam the public and what we can do about it*. CSICon. Nashville, TN.

Pratkanis, A. R. (2015, February, 20). *Social Influence Campaigns: What Does the Science of Social Influence Offer the Behavior Analyst?* [Invited Address]. CalABA / OBMN Conference, San Diego, CA.

Pratkanis, A. R. (2016, October 28). *Altercasting as a Social Influence Tactic*. CSICon. Las Vegas, NV.

Pratkanis, A. R. (2019, March 8). *Propaganda in international conflicts: A social influence analysis*. Center for International Security and Cooperation, Hoover Institute, Stanford University, Palo Alto, CA.

CONVENTION PARTICIPATIONS

Paper session on *Social Problems* (Discussant), Eighth Annual Graduate Student Conference in Personality and Social Psychology, The Ohio State University, April, 1980.

Paper on "Thought Experiments and the Problem of Sparse Data in Small Group Performance Research" by James Davis & Norbert Kerr (Discussion Leader), Groups Workshop, Carnegie-Mellon University, September, 1984.

Special session on *New Directions in Copytesting* (Chair & Discussant), Association of Consumer Research, Washington, DC, October, 1984.

Conference on Attitudes and Social Influence (Participant), Nags Head, NC, May, 1985.

Direct Marketing Professors' Institute (Participant), New York, NY, June, 1986.

Direct Marketing Colloquium (Invited Participant), New York, NY, November, 1986.

Poster session on *Attitudes and Behavior* (Moderator), Midwestern Psychological Association, Chicago, IL, May, 1987.

Symposium on *Attitude structure and function* (Chair), American Psychological Association, New York, NY, August, 1987.

Third Applied Social Psychology Conference on *The Socially Responsible Psychologist: A Conference in Honor of M. Brewster Smith* (Organizer and Coordinator), University of California, Santa Cruz, April 15-16, 1988.

Paper session on *Psychotherapy* (Moderator), Western Psychological Association, Los Angeles, CA, April, 1990.

Paper session on *Social-Personality Processes* (Moderator), Western Psychological Association, Los Angeles, CA, April 1990.

Symposium on *Social psychological perspectives on affirmative action*, (Chair), Western Psychological Association, San Francisco, CA, April 1991.

Paper on Newspaper coverage of baseball in North Dakota between 1890-1920 by George Schubert, Douglas Munski, & Scott Roper, (Discussant), Fifth Cooperstown Symposium on Baseball and American Culture, Baseball Hall of Fame, Cooperstown, NY, June 1993

Symposium on *Overcoming students' beliefs in the paranormal*, (Discussant), American Psychological Association, San Francisco, CA, April 1998.

Conference on *Tobacco project: Reduced risk seminar*, (Participant), National Association of Attorneys General, Chicago, IL, October 2003.

PUBLIC LECTURES

Pratkanis, A. R. (1988, November 15). *How do voters decide? Agenda setting, low involvement persuasion, and democracy*. Life-long Learners' Lecture sponsored by County of Santa Cruz Parks, Open Space, and Cultural Services. University of California, Santa Cruz.

Pratkanis, A. R. (1992, January 16). *Persuasion and propaganda in the upcoming 1992 Presidential election*. Scientific Psychology Forum Press Conference sponsored by the American Psychological Association. Washington DC.

Pratkanis, A. R. (1992, June 2). *Everyday persuasion tactics for increasing everyday energy conservation*. Awards banquet sponsored by Commuter Transportation Services. Los Angeles, CA.

Pratkanis, A. R. (1993, February 6). *Propaganda and persuasion in advertising: A talk with Chiat/Day account planners*. Laguna Beach, CA.

Pratkanis, A. R. (1995, January 20). *Mr. Branch Rickey, Mr. Jackie Robinson, and the social psychology of affirmative action*. Talk given as part of the University of Washington's 1995 celebration of the life of Dr. Martin Luther King. Seattle, WA.

Pratkanis, A. R. & Turner, M. E. (1995, June 19). *The social psychology of affirmative action*. California Legislative Black Caucus, Juneteenth Celebration. State Capitol Building, Sacramento, CA.

Pratkanis, A. R. & Turner, M. E. (1995, Sept. 21). *The proactive removal of discriminatory barriers: Affirmative action as effective help*. U.S. Congress. U.S. Capitol Building, Washington, DC. [Summarized in the American Psychological Association's (1996) policy briefing paper entitled: Affirmative action: Who benefits?

Pratkanis, A. R. & Turner, M. E. (1996, Feb. 22). *Evaluation of affirmative action: Take 9*. (Luncheon Keynote Address). American Association for Affirmative Action (Region VIII). Colorado Springs, CO.

Pratkanis, A. R. & Turner, M. E. (1996, Feb. 22). *The proactive removal of discriminatory barriers: Affirmative action as effective help*. American Association for Affirmative Action (Region VIII). Colorado Springs, CO.

Pratkanis, A. R. (1996, Feb. 22). *My four favorite myths about affirmative action*. [Originally scheduled as a debate on Affirmative Action with Tony Perkins, leader of an anti-gay and anti-civil rights group in Colorado. Perkins did not show for the debate]. American Association for Affirmative Action (Region VIII). Colorado Springs, CO.

Pratkanis, A. R. (1996, June 7). *Conformity and Bandwagons on NBC Dateline and the Oprah Winfrey Show*. Talk given for UCSC Foundation members and their families. University of California, Santa Cruz.

Pratkanis, A. R. & Turner, M. E. (1996, Oct. 24). *The proactive removal of discriminatory barriers: A scientific evaluation of what affirmative action has accomplished and what it can achieve*. 12th Annual EO/Affirmative Action Conference. (Sponsored by Colorado Equal Opportunity Affirmative Action Coalition, Inc.). Denver, CO.

Pratkanis, A. R. (1996, Oct. 29). *Panel discussion on California's Proposition 209*. Sponsored by The International House of University of California, Berkeley.

Pratkanis, A. R. & Turner, M. E. (1997, April 17). *Nine principles of successful affirmative action: Mr. Branch Rickey, Mr. Jackie Robinson, and the integration of baseball*. 23rd Annual Conference of the American Association for Affirmative Action. Houston, TX.

Pratkanis, A. R. & Turner, M. E. (1997, May 27). *Fifty years of successful affirmative action: Mr. Branch Rickey, Mr. Jackie Robinson, and the integration of baseball*. California Association of Equal Rights Professionals. Napa Valley, CA.

Pratkanis, A. R. & Turner, M. E. (1997, June 19). *Fifty years of successful affirmative action: Mr. Branch Rickey, Mr. Jackie Robinson, and the integration of baseball*. Keynote Address. United States Customs Service EEO Training Conference. Albuquerque, NM.

Pratkanis, A. R. (1997, Nov. 14). *Strategies of persuasion in politics*. Lecture series on the implications of research on social influence in business and in the political arena: A cross-cultural perspective. Arizona State University. Tempe, AZ.

Pratkanis, A. R. & Turner, M. E. (1997, Nov. 18). *The proactive removal of discriminatory barriers*. 5th Annual Conference and Job Fair. Texas Association for Access and Equity. South Padre Island, TX.

Pratkanis, A. R. & Turner, M. E. (1997, Nov. 18). *Nine principles of successful affirmative action: Mr. Branch Rickey, Mr. Jackie Robinson, and the integration of baseball*. 5th Annual Conference and Job Fair. Texas Association for Access and Equity. South Padre Island, TX.

Pratkanis, A. R. (1997, December 4). *Influence tactics of fraudulent telemarketers*. Victims' Voices: Forum on Fraud. Sponsored by the National Association of Attorneys General & the American Association of Retired Persons. Baltimore, MD.

Pratkanis, A. T. & Pratkanis, A. R. (1999, July 23). *An introduction to the American railroad*. Swanton Pacific Railroad Society. Swanton, CA.

Pratkanis, A. R. (2000, April 8). *A passion for psychology*. 10th Annual California Forum for Diversity in Graduate Education. Palo Alto, CA (Stanford University).

Pratkanis, A. R. (2001, September 28). *Social influence tactics used in an age of propaganda*. Foothill High School, Pleasanton, CA.

Pratkanis, A. R. (2001, November, 8). *Social influence tactics for use in psychological warfare*. Information Operations (IO) lecture series at the Naval Postgraduate School. Monterey, CA.

Pratkanis, A. R. (2003, October 24). Panel discussion on *Trends in elder fraud and exploitation*. D. Shadel (Moderator). A conference on Critical Issues for an Aging Society sponsored by Washington State Senior Citizens' Foundation. Seattle, WA.

Pratkanis, A. R. & Shadel, D. P. (2004, September 13). *New research and innovative tactics to prevent consumer fraud against elders*. Ending the Silence: Investigating and Prosecuting Crimes Against Elders and Vulnerable Adults. King County Department of Judicial Administration, Sheriff's Office, and Prosecuting Attorney Office. Bellevue, WA.

Pratkanis, A. R. (2006, May 24). *The nature and prevention of economic fraud crimes*. Idaho Summit on Elder Abuse and Exploitation. Nampa, ID.

Pratkanis, A. R. (2006, May 25). *Weapons of Fraud: How con criminals scam the public and what we can do about it*. Senior Scam Jam. Nampa, ID.

Pratkanis, A. R. (2008, June 1). *Ask and Check: Using Social Influence to Combat Investment Fraud*. 8th Annual North American Securities Administrators Association Investor Education Training Seminar, Philadelphia, PA.

Pratkanis, A. R. (2008, Sept. 8 & 9). *The use of social influence in international conflict: A social influence analysis*. [Workshop]. The School of Advanced Military Studies, Army Command and General Staff College, Fort Leavenworth, KS.

Pratkanis, A. R., & Turner, M. E. (2009, Jan. 19). *Mr. Branch Rickey, Mr. Jackie Robinson, and the integration of baseball: Nine principles of successful affirmative action*. Martin Luther King Day Lecture, Institute for Social Research at the University of Michigan, Ann Arbor, MI.

Pratkanis, A. R. (2011, May 29). *Selling flimflam: A social influence analysis*. 2nd Annual SkeptiCal Conference. Berkeley, CA.

Pratkanis, A. R. (2011, October 28). *Selling flimflam: The social psychology of influence*. Psychology Club Speaker Series, Ohlone College. Fremont, CA.

Pratkanis, A. R. (2013, June 15). *Weapons of fraud*. 4th Annual SkeptiCal Conference. Berkeley, CA.

Pratkanis, A. R. (2016, February 19). *Social influence campaigns: A case study of how the science of social influence defeated the con criminal*. Evidence-based Community Intervention Symposium at Fresno State University. Fresno, CA.

Pratkanis, A. R. (2019, January 5). *The projection tactic: A skeptic's perspective*. SkeptiCamp. Monterey, CA.

Pratkanis, A. R. (2019, June 5). Is propaganda keeping Americans from thinking for themselves? [panel discussion]. Zócalo Public Square. Los Angeles, CA.
<https://www.zocalopublicsquare.org/2019/06/06/beware-the-propagandist-you-see-in-the-mirror/events/the-takeaway/>

Pratkanis, A. R. (2022, Feb. 22). Panelist for “*Fraud and Scams in the COVID-19 Economy: What advocates need to know webinar*.” Sponsored by Consumer Action.

plus over 500 mass media interviews including NBC Dateline, Oprah Winfrey Show, CBS Evening News, New York Times, Los Angeles Times, British Broadcasting Corp., Canadian Broadcasting Corp., C-SPAN, and CNN.

HONORS & AWARDS

J.B. Smith Presidential Scholarship, E.M.C. (1975-79)
O.S.U. Graduate Student Alumni Research Award (1982)
Herbert Toops Dissertation Prize, O.S.U. (1982)
Finalist for the O.S.U. Graduate Teaching Award (1982)
O.S.U. Social Psychology Area Colloquium, Co-chair (1982-83)
Oprah Winfrey's "Star of the Week" (April 29, 1996)
Telly Award (2002) for *Weapons of Fraud* [video]
UCSC university-wide Excellence in Teaching Award for 2003-04
"Most Revered Professor" by the Psychology Graduating Class of 2005
Achievement in Consumer Education award (ACE award) from National Association of Consumer Agency Administrators (NACAA) for best consumer publication of the year for *Weapons of Fraud* (2006)
Eastern Mennonite University 2009 Alumnus of the Year
"Most Inspiring Faculty Mentor" by the Psychology Graduating Class of 2010
Crown College Certificate of Merit and Appreciation, Graduating Class of 2011
Fellow of the Committee for Skeptical Inquiry

COLLOQUIA

Carnegie-Mellon University (March 1983)
University of Florida (March 1985)
Johns Hopkins University (September 1985)
Eastern Mennonite College (October 1985)
University of Pittsburgh (February 1986)
University of California, Santa Cruz (January 1987)
University of California, Berkeley (March 1987)
Wayne State University (February 1988)
University of Santa Clara (October 1988)
University of California, Santa Barbara (May 1989)
University of Washington (January 1995)
Stanford University School of Business (May 1995)
Arizona State University (November 1997)
Drucker Graduate Management Center, Claremont Graduate School (February 1998)
Stanford University (November 2001)
University of Maryland, College Park (November 2001)
Colorado State University (January 2004)
Stanford University (November 2005)
University of Southern California (September 2006)
University of Michigan (January 2009)

Ohlone Community College (October 2011)

COMPUTER SOFTWARE

Greenwald, A. G., Rosenberg, K. E., Pratkanis, A. R., Breckler, S. J. & Kidd, G. R. (1982). *Writing experimental designs for the experimental command interpreter (ECI)*. The Ohio State University, Columbus, OH.

Breckler, S. J. & Pratkanis, A. R. (1984). *ECI/PC: Experiment command interpreter for the IBM personal computer*. Johns Hopkins University, Baltimore, MD.

UNPUBLISHED MANUSCRIPTS

Keenan, M. P. & Pratkanis, A. R. (1980). *Federal health care program regulations*. National Association of Social Workers, Washington, D.C.

Douglas, C., Marckioni, F., Shatz, L., Sober, E., Stewart, L. & Pratkanis, A. R. (1987). The plan for GSIA: *The marketing perspective*. Graduate School of Industrial Administration, Carnegie-Mellon University, Pittsburgh, PA.

MEMBERSHIPS

Association for Psychological Science (Fellow)
American Psychological Association (Fellow)
Midwestern Psychological Association (Fellow, UCSC Representative)
Western Psychological Association (Fellow)
Society for Personality and Social Psychology (Fellow)
Society for Experimental Social Psychology
Society for the Psychological Study of Social Issues (Fellow)
Society for the Study of Peace, Conflict & Violence (Fellow)
Society for the Teaching of Psychology
Friends of the Archives of the History of American Psychology
International Cultic Studies Association
Society for Consumer Psychology
Homebrew Robotics Society of San Jose, CA
Swanton Pacific Railroad Society
IEEE-CNSV
International Brotherhood of Magicians #71397
I.B.M. Ring 216 (Member and Magician Extraordinaire)
Magic Garage Magician (Inner Circle)
The Society of American Magicians #48937

HONORARY LISTINGS

Who's Who in America
Who's Who in the East
Who's Who in the West
Who's Who in the World
Who's Who of Emerging Leaders in America
Who's Who in American Education
Who's Who in Medicine and Healthcare
Who's Who in Science and Engineering

EDITORIAL REVIEWING

Founding Editor (2004-2007) *Social Influence*

Editorial Board (2004-2009) *Journal of Public Policy and Marketing*

Editorial Board (2000-) *Science and Pseudoscience Review in Mental Health* (Association for Advancement of Behavior Therapy [AABT]).

Editorial Board (1997-2002), *Group Processes and Intergroup Relations*

Editorial Board (2001-2003) *Journal of Consumer Psychology*

Editorial Board (2013-2017) *International Journal of Risk and Contingency Management*

Book Series Co-Editor (with M. E. Turner) (1994-2002), *Applied Social Research*. Mahwah, NJ: Lawrence Erlbaum.

Associate Editor (1996-98), *Journal of Consumer Psychology*.

Associate Editor (1994), *Encyclopedia of Psychology* (2nd ed.), R. J. Corsini (Ed.). New York: John Wiley and Sons.

Academic Review Board (2012-2013), *SAGE Propaganda Collection*

Ad hoc reviewer for Academic Press, Academy of Management, Gender and Diversity in Organizations Division (1999), *Administrative Science Quarterly*, AMACOM, American Marketing Association Educator's Conference (1987), American Psychological Association Convention, Division 8 (1990, 1991, 1994, 1997, & 2000), American Psychological Association Convention, Division 23 (1988), American Psychological Association Student Travel Awards (1999), *Analyses of Social Issues and Public Policy*, *Archives of Scientific Psychology*, *Basic and Applied Social Psychology*, *British Journal of Social Psychology*, Brooks/Cole Publishing, *Child Development*, *Communication Reports*, *Contemporary Psychology*, *Cornell Hospitality Quarterly*, *Encyclopedia of Human Behavior* (Academic Press), W. H. Freeman, *Evaluation Review*, *Group Dynamics*, Harper & Row Publishers, JAI Press, *Journal of Applied Social*

Psychology, Journal of Behavioral Decision Making, Journal of Consumer Psychology, Journal of Consumer Research, Journal of Experimental Psychology: Learning, Memory, and Cognition, Journal of Experimental Social Psychology, Journal of Personality and Social Psychology, Journal of Public Policy and Marketing, Lawrence Erlbaum Associates, International Communication Association, Political Communication Division (2004), *Management Science, Media Psychology, Motivation and Emotion*, National Science Foundation (Division of Information Science, Program for Political Science, Program for Social and Developmental Psychology, and Program for Social, Behavioral, and Economic Science Instrumentation), *Perceptual and Motor Skills, Personality and Social Psychology Bulletin, Personality and Social Psychology Review, Perspectives on Psychological Science, Psychological Bulletin, Psychological Reports, Psychological Review, Psychological Science, Psychology & Marketing, Public Opinion Quarterly, Risk and Decision Policy, Science, Scientific Review of Mental Health Practice, Social Cognition*, Society for Consumer Psychology's Winter Conference (1995 & 1999), *Swiss Journal of Psychology*, Transactions on Office Information Systems, Western Psychological Association (1993, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, & 2005), West Publishing Company, and William T. Grant Foundation.

GRANTS

The vicissitudes of the selective exposure effect (1987). University of California, Santa Cruz.

A computerized social psychological laboratory (1988). University of California, Santa Cruz.

Decision Research with Phantom Alternatives (1988). National Science Foundation.

Supplement to Decision Research with Phantom Alternatives (1989). National Science Foundation.

The unintended consequences of preferential selection (1989). University of California, Santa Cruz.

Preventing telemarketing fraud. (2000 - 2003). Research partners include American Association of Retired Persons, Wise Senior Center, A. T. & T., California Department of Corporations, U. S. Post Office, and Federal Bureau of Investigation.

Economic Fraud Crimes (2001-2003). AARP & Department of Justice.

Investigation into Seniors' Vulnerability to Investment and Lottery Fraud Crimes (2005-2006). National Association of Security Dealers (NASD) Investor Education Foundation.

Outsmarting Investment Fraud Study (2008). FINRA Investor Education Foundation.

PROFESSIONAL COMMITTEES

SPSSI Media Referral Task Force (chair, 1991-93)

SPSSI 1997 Gordon W. Allport Prize Committee
Society for the Study of Peace, Conflict & Violence Fellow's Committee (2001-03)
Scientists' Institute for Public Information (MRS Expert)
American Psychological Association Media Expert
Served on Fourteen External Tenure or Promotion Reviews
Judge, 2013-16 CalGames (Western Regional Robotics Forum of FIRST).

EXPERT WITNESS AND LEGAL CONSULTING

Vance/Roberson vs. CBS Records/Judas Priest (1990)
Hovey vs. Vasquez (1991)
Emery Wilson Corp. dba Sterling Management Systems vs. Cult Awareness Network (1994-95)
Nielsen vs. Moroni Feed Co., Blackham, Bailey, Blain, Cook, Donaldson, & Olson (1996-2001)
Ness Motley Loadholt Richardson & Poole of Charleston, SC (1998)
Johnson vs. Circuit City, Fry's Electronics, Good Guys, Compusa, Office Depot, Staples, and Officemax (1999)
State of Oregon vs. Publishers Clearing House (2000-2001)
State of Florida vs. Publishers Clearing House (2001)
Marlynn Sokol et al. vs. General Motors Corporation (2001)
State of California vs. MCI Worldcom Communications (2001 - 2002)
California Consumers and Gina Singh vs. BMG Direct-Marketing (2002-2003)
California Public Utilities Commission investigation into CingularWireless (2002-2003)
State of Minnesota (2004-2005)
State of Missouri (2004-2005)
State of Washington vs. Pacific Health Center (2004-2005)
California Department of Justice Tobacco Litigation and Enforcement Section & National Association of Attorneys General (2003 -)
State of Vermont vs. R. J. Reynolds Tobacco Co. (2006-2009)
State of Wisconsin vs. Going Places Travel and Travel Services (2011-2014)
Pacific Gas & Electric's Green Option Tariff before California Public Utilities Commission (2012-
FTC vs. Premier Precious Metals (2012-2013)
FTC vs. Sterling Precious Metals (2012-2013)
United States Senate Special Committee on Aging: Publishers Clearing House Report (2013-2014)
State of Washington vs. Mandatory Poster Agency dba Corporate Record Service (2015-16)
State of Washington vs. LA Investors, LLC dba Local Records Office (2015-16)
State of Indiana vs. Living Essentials (5-Hour Energy) (2015-2016)
State of Washington vs. Living Essentials (5-Hour Energy) (2015-2016)
State of Oregon vs. Living Essentials (5-Hour Energy) (2015-2016)
FTC v DirecTV (2016-2018)
United States of America v Robert Larry Lytle, Irina Kossovskaja, and Fredretta L. Eason (2017-2018)
State of Vermont vs. Living Essentials (5-Hour Energy) (2017- 2019)
State of Hawai'i vs. Living Essentials (5-Hour ENERGY) (2017-)
State of Washington vs. Johnson & Johnson and ETHICON (2017-2019)

State of Washington vs. Comcast Cable Communications (2018-2019)
People of the State of California v. Johnson & Johnson, et al. (2017-2019)
State of Washington vs. Motel 6 (2018-2019)
State of Mississippi vs. Johnson & Johnson and ETHICON (2020)
Commonwealth of Kentucky vs. Johnson & Johnson and ETHICON (2022-2023)
IN RE JUUL LABS, INC., Marketing, Sales Practices, and Products Liability Litigation (2020-2022)
State of Washington v. Alderwood Surgical Center LLC (dba Allure Esthetic Plastic Surgery) (2023-)

CONSULTING AND TASK FORCES

National Association of Social Workers (1979)
Health America (1986)
Graduate School of Industrial Administration, CMU (1986-87)
Federal Trade Commission (1991)
Science Connections, County Office of Education, Santa Cruz (1992)
Commuter Transportation Services of Los Angeles, CA (1993)
Chiat/Day (1993)
KSBW-TV (1998)
Telemarketing Fraud Roundtable of the National White Collar Crime Center (1999)
American Association of Retired Persons (1999- 2009)
United States Navy/Naval Postgraduate School (2001 - 2008)
National Academy of Science (Improving public understanding of mathematics)
Office of the Director of National Intelligence (2006)
FINRA (formerly NASD, 2006-2009)
Center for Complex Operations (2009-2010)
Chabot Space & Science Center OpenScience, Advisory Committee (2012-2016)
Fort Leavenworth: School of Advanced Military Studies (SAMS) (2008)
Fort Leavenworth: University of Foreign Military and Cultural Studies (UFMCS) (2016-)
Eastern Mennonite University: Second Century Advisory Board

UNIVERSITY COMMITTEES

Title IX Advisory Committee (OSU, 1980-81)
Committee on Women and Minorities (OSU, 1981)
Marketing Faculty Recruitment (CMU, 1983-87)
Marketing Faculty Recruitment, Chair (CMU, 1985-86)
Behavioral Laboratory Coordinator (CMU, 1985-87)
Committee on GSIA's Grading Policy (CMU, 1986-87)
Committee on MSIA Curriculum Revision (CMU, 1987)
Committee on MSIA Student Recruitment (CMU, 1987)
Committee on Kerr Hall Space (UCSC, 1987-91)
Committee on Social Responsibility Conference (UCSC, 1987-88)
Committee on Undergraduate Affairs (UCSC, 1988-89)
Developmental Psychology Faculty Recruitment (UCSC, 1988-89)

Lewin Scholar Advisor (UCSC, 1988-90)
 Inter-University Consortium for Political and Social Science Research (UCSC, 1989-92)
 Committee on Psychology Subject Pool (UCSC, 1989-93)
 Social Psychology Faculty Recruitment (UCSC, 1989-91)
 Chair, Social Area Graduate Admissions (UCSC, 1990; 1996)
 Division Research Committee (UCSC, 1990-92)
 Division College 10 Space Committee (UCSC, 1991-96)
 Division Committee on Computers in Psychology (UCSC, 1991-1995)
 Director, Graduate Program in Social Psychology (UCSC, 1991-92; 1994-1997)
 Division Committee on NEH Fellowships (UCSC, 1991)
 Served on three University-wide Tenure Review
 Chair of one University-wide Tenure Review
 Served on five Department Promotion Review Committee
 Chair of three Department Promotion Review Committees
 Search Committee for News Director, Public Information Office (UCSC, 1994 & 1995)
 Chair, Search Committee for Social Visiting Professor (UCSC, 1995; 1996)
 Department of Psychology Space Committee (UCSC, 1997-98)
 Search Committee for Senior Social Faculty Recruitment (UCSC, 1996-97)
 Academic Senate Graduate Council (UCSC, 1996-97)
 Graduate Council Representative to Board of Linguistic's External Review (UCSC, 1996)
 Graduate Council Representative to Department of Education's External Review
 (UCSC, 1996)
 Chancellor's Task Force on Quality, Enrollment, and Retention [Working Group on Image]
 (UCSC, 1996)
 Chancellor's Commission on a Changing Campus [Task Force on Graduate Student Diversity,
 Co-Chair] (UCSC, 1997)
 Chair, Department of Psychology Lecturer Committee (UCSC, 1998)
 Academic Senate University Club Committee (UCSC, 1998-2000)
 University-wide Academic Senate Task Force on University of California, Merced (UCSC,
 2000-2004)
 University-wide Librarian Search Committee for University of California, Merced (UCSC, 2000-
 2003)
 Chair, University-wide Academic Senate Library Committee for University of California,
 Merced (UCSC, 2000-2003)
 Academic Senate Rules, Jurisdiction, and Elections Committee (UCSC, 2000)
 University of California, Merced, Dean of SSHA search committee (UCSC, 2002-2003)
 University of California, Merced, Founding Professor in Psychology search committee (UCSC,
 2002-2003)
 University of California, Merced, Psychology faculty search committee (UCSC, 2003-2004)
 Graduate School of Management, Academic Advisory Group (UCSC, 2009-2011)
 Committee on the Library (UCSC, 2013-2015)
 Center for Entrepreneurship (UCSC, 2011- 2015)
 Center for Innovation and Entrepreneurial Development (UCSC, 2015 - 2018)

COURSES TAUGHT

Introductory Psychology (OSU & UCSC)
Social Psychology (OSU & UCSC)
Buyer Behavior (CMU)
Marketing Management (CMU)
Doctoral Seminar in Marketing (CMU)
Marketing Communications (CMU)
Marketing Project (CMU)
Program for Executives (CMU)
Independent Study in Marketing (CMU)
Social Influence (UCSC)
Graduate Seminar in Attitudes and Attitude Change (UCSC)
Graduate Seminar in Social Psychology (UCSC)
Graduate Seminar in Social Cognition (UCSC)
Advanced Experimental Social Psychology (UCSC)
Teaching of Psychology (UCSC)
Experimental Method in Social Psychology (UCSC)
Consumer Psychology (UCSC)
Social Psychology of Flimflam (UCSC)
Social Psychology of Autocracy and Democracy (UCSC)

IN THE CIRCUIT COURT OF THE FIRST CIRCUIT
STATE OF HAWAII

CITY AND COUNTY OF HONOLULU and
HONOLULU BOARD OF WATER
SUPPLY,

Plaintiffs,

vs.

SUNOCO LP; ALOHA PETROLEUM,
LTD.; ALOHA PETROLEUM LLC; EXXON
MOBIL CORP.; EXXONMOBIL OIL
CORPORATION; ROYAL DUTCH SHELL
PLC; SHELL OIL COMPANY; SHELL OIL
PRODUCTS COMPANY LLC; CHEVRON
CORP.; CHEVRON USA INC.; BHP GROUP
LIMITED; BHP GROUP PLC; BHP
HAWAII INC.; BP PLC; BP AMERICA
INC.; MARATHON PETROLEUM CORP.;
CONOCOPHILLIPS; CONOCOPHILLIPS
COMPANY; PHILLIPS 66; PHILLIPS 66
COMPANY; AND DOES 1 through 100,
inclusive,

Defendants.

CIVIL NO. 1CCV-20-0000380 (LWC)

(Other Non-Vehicle Tort)

**DECLARATION OF BENJAMIN
SULLIVAN IN SUPPORT OF
PLAINTIFFS' OPPOSITION TO
DEFENDANTS' MOTION FOR
SUMMARY JUDGMENT**

**DECLARATION OF BENJAMIN SULLIVAN IN SUPPORT OF PLAINTIFFS'
OPPOSITION TO DEFENDANTS' MOTION FOR SUMMARY JUDGMENT**

I, Benjamin Sullivan, hereby declare upon personal knowledge that the following is true
and correct:

1. I am the Chief Resilience Officer and Executive Director of the Office of Climate
Change, Sustainability, and Resiliency ("CCSR") for the City and County of Honolulu ("City").
This declaration is based on my personal knowledge in support of Plaintiffs' Opposition to
Defendants' Motion for Summary Judgment.

2. I have been employed at CCSR since June 2021, and have been the Chief Resilience Officer and Executive Director since September 2024. Before my appointment as Chief Resilience Officer and Executive Director, I was the Deputy Director at CCSR for over one year, and a program manager at CCSR for over two years. Prior to joining CCSR, I served as an energy and sustainability coordinator in the Kaua'i County Office of Economic Development.

3. CCSR is responsible for many activities to address local impacts of climate change. CCSR's responsibilities include: tracking climate change science and potential impacts on City facilities; coordinating actions and policies of City agencies to protect economic activity from climate impacts, increase preparedness, and develop resilient infrastructure in response to the effects of climate change; developing and coordinating city policies and programs that improve environmental performance; integrating sustainable and environmental values into City plans, programs and policies; and promoting resilience of communities and coastal areas.

4. The City has incurred costs to address local impacts of climate change and to adapt to future climate change threats. This includes costs other than costs to repair physical damage to City property.

5. For example, the City has incurred staff costs to address local climate impacts. For FY2025, the CCSR team includes 16 full-time City-funded positions. These City-funded staff are employed to advance CCSR's planning, communications, and programs to increase sustainability and address local climate change impacts. These City-funded staff spend a substantial majority of their time on efforts other than repairing physical damage to City property caused by climate impacts.

6. The City has engaged in planning to prepare for local climate impacts. For example, the City has committed over \$1 million to date for technical consultant costs and contributed substantial staff time for the following planning initiatives:

- a. Climate Ready O‘ahu: Climate Ready O‘ahu is the City’s climate adaptation strategy, which was adopted by the City Council in February 2024. Climate Ready O‘ahu provides a science-based, community-driven list of strategies, policies, and actions for the City to adapt to and prepare for local impacts of climate change.
- b. Adapt Waikīkī 2050: Adapt Waikīkī 2050 is a climate adaptation plan for the Waikīkī Special District that will identify policies, public projects, and updates to the Waikīkī Special District Design Guidelines to enhance climate resilience. The project includes stakeholder engagement, a climate risk profile, and an adaptation plan.
- c. Sea Level Rise Exposure Analysis and Transfer of Development Rights Study: This vulnerability assessment and study identified affected populations and properties with a sea level rise exposure area, and assessed a “Transfer of Development Rights” program to facilitate managed retreat from coastlines threatened by sea level rise.
- d. Study on Adaptation Pathways for High Priority Infrastructure: This project will develop adaptation pathways for high-priority critical infrastructure assets vulnerable to sea-level rise.
- e. Study on Financing Resilience: This study will assess the City’s financial exposure to climate impacts and develop approaches for funding and financing to address climate risks and implement climate adaptation.

7. The City has also incurred costs for public communications related to local climate change impacts. For example, the City has incurred professional services costs to assess heat risks to public health and safety on O‘ahu, determine heat management actions, and develop a community outreach strategy to raise public awareness about heat risk and heat mitigation.

8. The City has spent funds on programs to address local climate impacts. For example, in partnership with the University of Hawai‘i and Center for Resilient Neighborhoods (CERENE) at Kapi‘olani Community College, the City has undertaken preliminary work toward developing “Resilience Hubs” to provide emergency and non-emergency services to community members in the face of climate impacts. As another example, the City has incurred technical consultant costs to develop its Climate Change Design Guidelines, which will help the City address local climate change impacts through planning and design for capital projects.

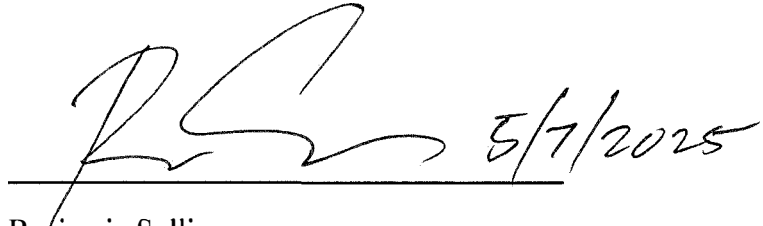
9. The City has incurred and will incur substantial capital improvements costs to address climate change, other than the costs of repairing physical damage caused by climate impacts. For example, the Sand Island Wastewater Treatment Plant is currently undergoing upgrades, and the City is incurring costs to increase the finished floor elevation to 16 feet to account for future sea level rise (6 feet), hurricane storm surge plus high tide (8 feet), and an additional safety factor (2 feet).

10. The City will also incur economic losses due to climate change, such as loss of tax revenue. One analysis funded by the City determined that an estimated \$18.6 billion in real estate value on O‘ahu falls within a sea level rise exposure area, which accounts for an estimated \$220 million in annual City property tax revenue (calculated for the year 2023).

11. The costs in this declaration are only some examples of the costs that the City has incurred to address climate change other than costs to repair physical damage to City property.

I, Benjamin Sullivan, do declare under penalty of law that the foregoing is true and correct to the best of my knowledge and belief.

Dated:
Honolulu, Hawai'i

A handwritten signature, appearing to be 'BS', is written in black ink. To the right of the signature, the date '5/7/2025' is also handwritten in black ink. A horizontal line is drawn beneath the signature and date.

Benjamin Sullivan
Chief Resilience Officer & Executive Director
Office of Climate Change, Sustainability, and Resiliency
City & County of Honolulu

IN THE CIRCUIT COURT OF THE FIRST CIRCUIT
STATE OF HAWAII

CITY AND COUNTY OF HONOLULU and
HONOLULU BOARD OF WATER
SUPPLY,

Plaintiffs,

vs.

SUNOCO LP; ALOHA PETROLEUM,
LTD.; ALOHA PETROLEUM LLC; EXXON
MOBIL CORP.; EXXONMOBIL OIL
CORPORATION; ROYAL DUTCH SHELL
PLC; SHELL OIL COMPANY; SHELL OIL
PRODUCTS COMPANY LLC; CHEVRON
CORP.; CHEVRON USA INC.; BHP GROUP
LIMITED; BHP GROUP PLC; BHP
HAWAII INC.; BP PLC; BP AMERICA
INC.; MARATHON PETROLEUM CORP.;
CONOCOPHILLIPS; CONOCOPHILLIPS
COMPANY; PHILLIPS 66; PHILLIPS 66
COMPANY; AND DOES 1 through 100,
inclusive,

Defendants.

CIVIL NO. 1CCV-20-0000380 (LWC)

(Other Non-Vehicle Tort)

**DECLARATION OF BARRY USAGAWA
IN SUPPORT OF PLAINTIFFS'
OPPOSITION TO DEFENDANTS'
MOTION FOR SUMMARY JUDGMENT**

**DECLARATION OF BARRY USAGAWA IN SUPPORT OF PLAINTIFFS'
OPPOSITION TO DEFENDANTS' MOTION FOR SUMMARY JUDGMENT**

I, Barry Usagawa, hereby declare upon personal knowledge that the following is true and correct:

1. I am the division head of the Water Resources Division of the Honolulu Board of Water Supply ("BWS"). This declaration is based on my personal knowledge in support of Plaintiffs' Opposition to Defendants' Motion for Summary Judgment.

2. I have worked at BWS for over 39 years in water systems analysis, environmental matters, capital planning, water resource management, conservation, water reuse, water rights, and land use planning. I have been the division head of the Water Resources Division since 2001. I am a licensed professional engineer in Hawai‘i and hold a B.S. in Civil Engineering from the University of Hawai‘i at Manoa.

3. The Water Resources Division is responsible for the administration of BWS’s water resources sustainability, watershed protection, long-range capacity and resources plans, capital improvement program, water systems analysis, water commitments and water and energy conservation and efficiency. The Water Resources Division is involved in planning, mitigating and adapting to impacts of climate change to ensure the long-term health of O‘ahu’s water resources and water systems.

4. BWS has incurred costs to address local impacts of climate change and to adapt to future climate change threats. This includes costs other than costs to repair physical damage to BWS property.

5. For example, BWS contributed its own funds toward a vulnerability assessment titled “Impacts of Climate Change on Honolulu Water Supplies & Planning Strategies for Mitigation” (2019). BWS co-funded this assessment to identify and characterize climate change risks to: (1) fresh water supply from forecasted temperature increases and reduction in precipitation, (2) groundwater quality from saltwater intrusion, and (3) coastal water system infrastructure from projected sea level rise. This assessment was necessary for BWS’s climate adaptation and resiliency work, which ensures that BWS customers continue to receive an adequate supply of drinking water.

6. BWS has also incurred costs to implement the “One Water” initiative. The One Water initiative, established by Honolulu Ordinance 20–47, is a local interagency effort to manage stormwater, wastewater, groundwater, seawater, freshwater, graywater, and recycled water as one “integrated resource” in the face of changing natural and urban water cycles and sea level rise. This work is likewise necessary to secure an adequate drinking water supply for BWS customers as BWS faces climate change impacts.

7. Similarly, BWS has undertaken significant water resource planning efforts that address climate change. The 2016 Water Master Plan considered climate change threats to O‘ahu’s water supply and coastal pipelines from sea level rise, and the Water Master Plan Update currently in progress will provide further analysis of climate change threats. Additionally, the watershed management plans for O‘ahu’s eight planning districts have planned and will plan for climate change (some are completed and some are in progress or undergoing updates). These analyses, which are part of BWS’s efforts to prepare for and adapt to climate change impacts, have required BWS to pay considerable amounts in professional services costs.

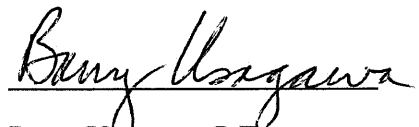
8. BWS has paid for research and monitoring to understand localized climate change impacts. In partnership with the University of Hawai‘i, BWS contributed funds for the development of a coastal groundwater monitoring network in Honolulu’s primary urban center. That project included the installation of five new monitoring wells to gather data about groundwater inundation induced by sea level rise, which threatens low-lying and subsurface infrastructure like building foundations, roadways, and submerged pipe networks. BWS also helped fund the development of a groundwater inundation model, which was related to the groundwater monitoring network project.

9. BWS also engages in watershed management projects to reduce the impacts of climate change and other threats to priority watershed areas that serve as critical water sources for BWS. For example, BWS has funded and partnered with the Ko‘olau Mountains Watershed Partnership, the Wai‘anae Mountains Watershed Partnership, and the Oahu Invasive Species Committee for weed control and ecosystem restoration efforts that increase watershed health in the face of climate change threats.

10. The costs in this declaration are only some examples of the costs that BWS has incurred to address climate change other than costs to repair physical damage to property.

I, Barry Usagawa, do declare under penalty of law that the foregoing is true and correct to the best of my knowledge and belief.

Dated: *May 5, 2025*
Honolulu, Hawai‘i


Barry Usagawa, P.E.
Division Head
Water Resources Division
Honolulu Board of Water Supply

IN THE CIRCUIT COURT OF THE FIRST CIRCUIT
STATE OF HAWAII

CITY AND COUNTY OF HONOLULU and
HONOLULU BOARD OF WATER
SUPPLY,

Plaintiffs,

vs.

SUNOCO LP; ALOHA PETROLEUM,
LTD.; ALOHA PETROLEUM LLC; EXXON
MOBIL CORP.; EXXONMOBIL OIL
CORPORATION; ROYAL DUTCH SHELL
PLC; SHELL OIL COMPANY; SHELL OIL
PRODUCTS COMPANY LLC; CHEVRON
CORP; CHEVRON USA INC.; BHP GROUP
LIMITED; BHP GROUP PLC; BHP
HAWAII INC.; BP PLC; BP AMERICA
INC.; MARATHON PETROLEUM CORP.;
CONOCOPHILLIPS; CONOCOPHILLIPS
COMPANY; PHILLIPS 66; PHILLIPS 66
COMPANY; AND DOES 1 through 100,
inclusive,

Defendants.

CIVIL NO. 1CCV-20-0000380 (LWC)

(Other Non-Vehicle Tort)

**DECLARATION OF ERNEST Y.W. LAU
IN SUPPORT OF PLAINTIFFS'
OPPOSITION TO DEFENDANTS'
MOTION FOR SUMMARY JUDGMENT**

**DECLARATION OF ERNEST Y.W. LAU IN SUPPORT OF PLAINTIFFS'
OPPOSITION TO DEFENDANTS' MOTION FOR SUMMARY JUDGMENT**

I, Ernest Y.W. Lau, hereby declare upon personal knowledge that the following is true and correct:

1. I serve as the Manager & Chief Engineer of the Honolulu Board of Water Supply ("BWS"). As such, I am personally knowledgeable about BWS's relationship with the City & County of Honolulu ("City") and its mayor.

2. BWS is a semi-autonomous agency of the City that manages Oahu's municipal water resources and distribution system.

3. BWS is its own "public body, corporate and politic, with the authority to sue and be sued." Revised Charter of Honolulu (RCH) § 3-121; *see also* Hawai'i Revised Statutes tit. 6, ch. 54, pt. II (providing for county boards of water supply like BWS); RCH art. VII (establishing the Board of Water Supply).

4. The Mayor of the City & County of Honolulu appoints five of the seven board members who govern BWS. These appointments are subject to confirmation by the City Council.

5. The remaining two board members are *ex officio* members: they are respectively the Director of the State Department of Transportation and the Chief Engineer of the City Department of Facility Maintenance (who is appointed by the Mayor).

6. The Mayor is neither an officer nor an agent of BWS.

7. The Mayor lacks oversight powers over BWS other than the power to request an audit.

8. The Mayor cannot remove BWS board members. Any removal would occur pursuant to the procedures in Section 3-9.6 of the Revised Ordinances of Honolulu.

9. The Mayor does not participate in BWS's day-to-day activities.

I, Ernest Y.W. Lau, declare under penalty of law that the foregoing is true and correct to the best of my knowledge and belief.

Dated: May 06, 2025
Honolulu, Hawai'i

A handwritten signature in black ink, appearing to read "Ernest Y.W. Lau", is written over a horizontal line.

IN THE CIRCUIT COURT OF THE FIRST CIRCUIT
STATE OF HAWAII

CITY AND COUNTY OF HONOLULU and
HONOLULU BOARD OF WATER
SUPPLY,

Plaintiffs,

vs.

SUNOCO LP; ALOHA PETROLEUM,
LTD.; ALOHA PETROLEUM LLC; EXXON
MOBIL CORP.; EXXONMOBIL OIL
CORPORATION; ROYAL DUTCH SHELL
PLC; SHELL OIL COMPANY; SHELL OIL
PRODUCTS COMPANY LLC; CHEVRON
CORP; CHEVRON USA INC.; BHP GROUP
LIMITED; BHP GROUP PLC; BHP
HAWAII INC.; BP PLC; BP AMERICA
INC.; MARATHON PETROLEUM CORP.;
CONOCOPHILLIPS; CONOCOPHILLIPS
COMPANY; PHILLIPS 66; PHILLIPS 66
COMPANY; AND DOES 1 through 100,
inclusive,

Defendants.

CIVIL NO. 1CCV-20-0000380 (LWC)

(Other Non-Vehicle Tort)

**DECLARATION OF KIRK CALDWELL
IN SUPPORT OF PLAINTIFFS'
OPPOSITION TO DEFENDANTS'
MOTION FOR SUMMARY JUDGMENT**

**DECLARATION OF KIRK CALDWELL IN SUPPORT OF PLAINTIFFS'
OPPOSITION TO DEFENDANTS' MOTION FOR SUMMARY JUDGMENT**

I, Kirk Caldwell, hereby declare upon personal knowledge that the following is true and correct:

1. I served as the Mayor of the City & County of Honolulu from January 2013 to January 2021.
2. In my capacity as Mayor, I attended the December 2017 North American Climate Summit in Chicago, Illinois, which was hosted by then-Chicago Mayor Rahm Emanuel.

3. The North American Climate Summit was a large gathering of several dozen mayors and other local government officials.

4. The North American Climate Summit focused on how cities were supporting, and could support, the goals of the Paris Agreement. Discussions at the summit focused on a wide range of climate-related subjects, including how cities could reduce greenhouse gas emissions; adapt and become more resilient in the face of damaging climate change; and collaborate with each other.

5. The North American Climate Summit was an opportunity for cities to join the Chicago Climate Charter. In that Charter, dozens of cities committed to a range of activities to support the goals of the Paris Agreement on climate change. I signed the Charter on behalf of the City & County of Honolulu.

6. The North American Climate Summit was not a gathering convened to strategize about climate-deception lawsuits.

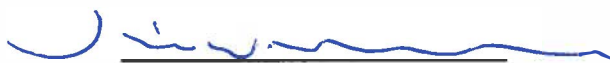
7. At the North American Climate Summit, I met Serge Dedina, the then-Mayor of Imperial Beach, California and had a spontaneous, passing conversation with him.

8. This conversation was mostly about surfing.

9. I recall that Mayor Dedina mentioned that Imperial Beach was suing fossil fuel companies, but he did not state the details of the lawsuit.

I, Kirk Caldwell, declare under penalty of law that the foregoing is true and correct to the best of my knowledge and belief.

Dated: 5/1/2025
Honolulu, Hawai'i



Kirk Caldwell