

WELL STIMULATION TREATMENT PERMITTING PHASE-OUT REGULATIONS

PUBLIC COMMENT SUMMARY AND RESPONSE

Public Comment Period:
February 9, 2024 – March 27, 2024

Public Comment Hearing:
Virtual – March 26, 2024

INTRODUCTION

The following comments, objections, and recommendations were made regarding the proposed Well Stimulation Treatment (WST) Permitting Phase-out rulemaking action during a public comment period beginning February 9, 2024, and ending March 27, 2024. During that public comment period, a virtual public comment hearing was conducted on March 26, 2024. Over the course of the public comment period, the California Geologic Energy Management Division (CalGEM) of the Department of Conservation (Department) received a number of public comments via email and public comment hearing. These comments ranged from support and opposition to the rule to general concerns about oil and gas operations.

To facilitate the process of reviewing and responding to comments, the Department assigned a unique numerical signifier to each comment. This signifier consists of three components: first, a unique code number assigned to each commenter (listed in the table below); second, a separating hyphen; and, third, a sequential number assigned to each comment from the identified commenter. Within this document, you will find either grouped or individual numerical signifiers, followed by a comment summary or a specific comment repeated verbatim, followed by the Department's response (*italicized*).

The Department also received five large groups of identical email comments. These large groups of comments are summarized and coded as #ME below. A listing of the large-group email commenters can be found as a separate document accompanying the rulemaking. Comments received from these large-group emails with substantive modifications were numbered and included as individual comments and are not included in the totals below.

01ME I am writing in response to file Z2024-0130-03 (155 comments)
 02ME I am writing to urge you to finalize the proposed rule (2461 comments)
 03ME I am writing to thank you (1011 comments)
 04ME Floods of toxic wastewater (250 comments)
 05ME Thank you for your climate leadership (1471 comments)

Comment number 0120-180 was skipped in the comment review and markup and is not included in the comment summary, but all comments were reviewed.

Comment 02ME1516 was originally classified as an identical comment, but it was not identical to other 02ME comments, so it was included in the record as individual comment #0303 in this document.

INDIVIDUAL COMMENTERS (NOT INCLUDING LARGE-GROUP EMAIL COMMENTERS)

Commenter Number	Name and/or Entity
0001	Carlin Black
0002	Clare Clayfisher
0003	Warren Hageman
0004	Diane Keeney
0005	Mary Chieffe
0006	Lola Duncan
0007	Barbara Burke
0008	Scott Amundson
0009	Bill Woodbridge
0010	Val Carrick
0011	Mary Stone
0012	Roma Eisenstark
0013	Linda Livingston
0014	Ruth McDonald
0015	David Gassman
0016	Jen Rund
0017	Karen Mendelow Nelson
0018	Diana Morgan-Hickey
0019	Susanna Marshland
0020	Brad Marshland
0021	Kwan Kok Ko
0022	Star St John
0023	Leslie Klein
0024	Stephen Pelz

0025	Chad Hathaway
0026	Matt Wyatt
0027	James Rector III
0028	Marvin St Pierre
0029	Chris Boyd
0030	Nora Privitera
0031	Jean Tepperman
0032	Dennis O
0033	Adam Joselson
0034	Joan Starr
0035	Alvaro Ramos
0036	Stewart Wilber
0037	Lee Engdahl
0038	Elizabet Mather
0039	Corinne Williams
0040	Steve Kaye
0041	Jennifer Kutner
0042	Lisa Feldberg
0043	Mary Kate Stoeve
0044	Mira Becker
0045	Lisa Holcomb
0046	Paula Silver
0047	Patricia Walker
0048	Gina Day
0049	Ellen Gachesa
0050	Bill Woodridge
0051	Judy Schultz
0052	Carol Weed
0053	John Mason
0054	Megan Schwartz, CIPA
0055	Lorelei Oviatt, County of Kern
0056	Michael House
0057	Christina Hodge
0058	Brian Trautwein
0059	David Bezanson
0060	Martha Hunt
0061	Margo Krindel
0062	Nanda Carrant
0063	Steven King, Environmental California
0064	Ashley Arax, Clean Air Task Force
0065	Carla Mena, Los Padres Forest Watch

0066	Matthew Pelz
0067	Lucy Garcia
0068	Chris Montgomery
0069	Bonnie Thompson
0070	Nina Jones
0071	Janus Matthes
0072	Julie Sarah Peppard
0073	Chris Messick
0074	Linda Lintvedt
0075	Gregg Oelker
0076	Angela Carter
0077	Melissa Miller
0078	Kae Bender
0079	Bob Tintle
0080	Timothy Villalobos
0081	Margaret Flaherty
0082	Jeffrey Creque
0083	John F Delgado
0084	Margaret Goodman
0085	Jeri Fergus
0086	Ronald Martin
0087	Marsha Penner
0088	Mary E Stone
0089	Kari Hochstatter
0090	Christine Halley
0091	Chris Lish
0092	Valerie Ventre-Hutton, 350 Bay Area Action
0093	Heather Hamp, Santa Clara Valley Water
0094	David Pederson
0095	Nichole Ghio, Friends of the Earth Included a petition with 2,453 signatures
0096	Joyce Holtzclaw
0097	Kenneth Gibson
0098	Soshana Wechsler
0099	Barbara Moulton
0100	Elizabeth Evans
0101	John Smalley
0102	Matt Campa, Environmental Defense Center
0103	Gina Day
0104	Bill Montgomery
0105	Paula Fogerty

0106	Ellen Bailey
0107	Marc Plotkin
0108	Leah Harper
0109	Jane Bender
0110	Eleanor Kneibler
0111	Marian Killian
0112	Ramona
0113	Jerry Bender
0114	Christine Hoex
0115	Woody Little, Last Chance Alliance Included a letter signed by 109 organizations
0116	Craig Barry
0117	Hollis Kretzmann, Center for Biological Diversity
0118	Margot Garey
0119	Susan Stephenson
0120	Mercedes Macias, Sierra Club Included a petition with 1067 signatures and 295 individual comments
0121	Jan Warren
0122	Sara Theiss
0123	Hilary Stoermer
0124	Paulina Torres, NRDC
0125	Jon Frappier
0126	Sara Syer
0127	Elizabeth Westguard
0128	Ralph Combs, The Termo Company
0129	John Moran, Mountain View Resources
0130	Zorka Gojkovich, Chevron
0131	Greg Gutierrez
0132	Kevin Ivey
0133	Kenneth Parkford
0134	Mike Maulhardt
0135	Randy Horne
0136	Jim Waldron
0137	Leslie Maulhardt
0138	Pamela Clevinger
0139	Patrick Snitchler
0140	Jeffrey L Young
0141	Michael Morones
0142	David Young

0143	Gary Grillette
0144	Brenda Cervantez, CalNRG
0145	Kelly Haggerty
0146	Michael Morones
0147	Juan Santiago
0148	Paul Henshaw
0149	Derek Beaumont
0150	James Tasker
0151	Kristen Castellucci
0152	Steve Snitchler
0153	Terry O'Sullivan
0154	Sophie Ellinghouse, WSPA
0155	Margie Beckett
0156	David Walter
0157	Cecily Anne Killingsworth
0158	Deborah Olson
0159	Mike Winterhalter
0160	Michael Dalzell
0161	Olivia Simonson, The Responsible Energy Council
0162	Edward S Hazard, NARO California
0163	William Reed
0164	Laura Daulton
0165	Derek Jones
0166	David Daly
0167	Lila Prentice
0168	Joan Phaup
0169	Marian Ruhl Metson
0170	Glenn Battles
0171	Janice Battles
0172	Susan Killingsworth
0173	Raphael Barrios
0174	Tom Hampton
0175	Daniel R Finley
0176	Tammy McCarthy
0177	Ken Parkford
0178	Charles Comfort
0179	Pier Tegel
0180	Richard Scott

0181	Gary Tegel
0182	Charles C Albright
0183	Judy Combs
0184	Lanny Ebenstein, California Center for Public Policy
0185	Al Adler, ABA Energy Corp
0186	Stephen Parkford
0187	Mercedes Macia, Sierra Club
0188	Catherine Dodd, Families Advocating for Chemical and Toxic Safety
0189	Dave Shukla
0190	Matthew Campa, Environmental Defense Center
0191	Sandy Emerson, Fossil Free California
0192	Bill Woodbridge
0193	Clara Castronovo
0194	Elizabeth Fischer, Earth Justice
0195	Mark Schlosberg, Food and Water Watch
0196	Ilonka Zlatar, Oil and Gas Action Network/Last Chance Alliance
0197	Ann Alexander, NRDC
0198	Cesar A
0199	Oliva Simonson, Responsible Energy Council
0200	Theo Lequesne
0201	Woody Little, Last Chance Alliance
0202	Nicole Ghio, Friends of the Earth
0203	Marcia Hanscom, Ballona Wetlands
0204	Carla Mena, Los Padres Forest Watch
0205	Woody Hastings, The Climate Center
0206	Kari Hochstatter
0207	Ridhi Patel
0208	Maricruz Ramirez, Center on Race & Poverty in the Environment
0209	Isabel Penman, Water Watch
0210	Julie Korenstein
0211	Catherine Ronan
0212	Bekah Estrada, California Interfaith Power and Light
0213	Cori Lopez
0214	Jessie Boswell
0215	Andrea Vega, Food and Water Watch
0216	Ginny Madsen
0217	Chirag Bhakta
0218	Najoraa Tranquina, California Youth Organization

0219	Amy Moas, Greenpeace U.S.A.
0220	David Marrett
0221	Michael Maulhart
0222	Kobi Naseck, Voices in Solidarity Against Oil in Neighborhoods
0223	Veronica Wilson, Labor Network for Sustainability
0224	Ann Harvey
0225	Anne Corrigan
0226	Bruce Coston
0227	Bruce Coston
0228	C. Borello
0229	Claudia Delman
0230	David Marrett
0231	David Marrett
0232	Diana Waters
0233	Emily Morris
0234	Isaac Ramirez
0235	Jennifer Taw
0236	Jeri Fergus
0237	Kenneth Wilcox
0238	Kristen Manies
0239	Lisa LaPlaca
0240	Lisa Sowle
0241	Marilyn Fuss
0242	Martha Matsuda
0243	Mary Herring
0244	Nancy Kurshan
0245	Sandra Sublette
0246	Sophie Rose Frey
0247	Stewart Wilber
0248	Sue Mossman
0249	Suvan Geer
0250	Zoe Christopher
0251	Alethea MacKinnon
0252	Daren Black
0253	Diane Bolon
0254	Jeanne Ewy
0255	Jed Fuhman
0256	Leah Halper
0257	Richard Bradus
0258	Sherrill Futrell

0259	Virginia McDermott
0260	Adriene Stutrud
0261	Alyssa Dalton
0262	Charlene Woodcock
0263	Chrissy Cronin
0264	Christina Hodge
0265	Dan Hawkins
0266	Daphne Riley
0267	Dennis Higgins
0268	Dianna Sahhar
0269	Doug Thompson
0270	Gary Bailey
0271	Jeanette King
0272	Jeffery Garcia
0273	Jennifer Haydu
0274	Jerrilyn Miller
0275	Joanna Reynolds
0276	Kara Masters
0277	Karen Cappa
0278	Karl Twombly
0279	Kathy Knight
0280	Katie Brammer
0281	Laura Chinn-Smoot
0282	Leah Roschke
0283	Lindsay Merryman
0284	Lynn Stafford
0285	Magi Bollcok
0286	Mark Jorgensen
0287	Martha Booz
0288	Maryanne Murphy
0289	Melanie Schimpf
0290	Michael Tucker
0291	Nancy Martin
0292	Naomi Stein
0293	Nina Anne Greeley
0294	Patricia Barni
0295	Rebecca Swanson
0296	Rev Elisabeth Zenker
0297	Samuel Gilbert
0298	Sergi Goldman-Hull
0299	Sheryl Rose

0300	Susan Pelican
0301	Tisha Douthwaite
0302	James Hosley
0303	Lynn Nielsen

COMMENTS

Comments in Support of the Rulemaking

01ME-1, 02ME-1, 03ME-1, 04ME-1, 05ME-1, 0001-1, 0002-1, 0003-1, 0004-1, 0005-1, 0006-1, 0007-1, 0008-1, 0009-1, 0010-1, 0011-1, 0012-1, 0012-2, 0013-1, 0014-1, 0014-2, 0015-1, 0016-1, 0016-2, 0016-3, 0017-1, 0023-2, 0030-1, 0030-2, 0030-3, 0031-1, 0032-1, 0033-1, 0034-1, 0035-1, 0036-1, 0037-1, 0037-2, 0038-1, 0038-2, 0039-1, 0041-1, 0041-2, 0042-1, 0042-2, 0044-2, 0045-1, 0046-1, 0047-2, 0049-1, 0049-2, 0049-3, 0051-1, 0056-1, 0057-1, 0058-2, 0059-1, 0060-1, 0061-1, 0061-2, 0062-1, 0062-2, 0063-1, 0065-1, 0067-1, 0068-1, 0069-1, 0069-2, 0070-1, 0070-2, 0071-1, 0071-2, 0072-1, 0072-2, 0073-1, 0074-1, 0074-2, 0075-1, 0075-2, 0076-1, 0076-2, 0077-1, 0077-2, 0078-1, 0078-2, 0079-1, 0080-1, 0080-2, 0081-1, 0082-1, 0083-1, 0083-2, 0084-1, 0084-2, 0085-1, 0085-2, 0086-1, 0086-2, 0087-1, 0088-2, 0091-1, 0091-2, 0091-3, 0091-5, 0091-6, 0092-1, 0094-1, 0095-1, 0097-1, 0097-2, 0099-1, 0100-1, 0101-1, 0102-2, 0102-3, 0103-1, 0104-1, 0105-1, 0106-1, 0107-1, 0108-1, 0108-2, 0109-1, 0110-1, 0111-1, 0112-1, 0113-1, 0114-1, 0115-1, 0115-3, 0115-4, 0116-1, 0117-2, 0117-6, 0117-7, 0117-8, 0117-9, 0118-1, 0119-1, 0119-2, 0120-1, 0120-3, 0120-4, 0120-5, 0120-6, 0120-7, 0120-8, 0120-9, 0120-10, 0120-11, 0120-12, 0120-13, 0120-14, 0120-15, 0120-17, 0120-18, 0120-19, 0120-21, 0120-22, 0120-23, 0120-24, 0120-25, 0120-26, 0120-27, 0120-28, 0120-29, 0120-30, 0120-31, 0120-32, 0120-33, 0120-34, 0120-35, 0120-36, 0120-37, 0120-38, 0120-39, 0120-41, 0120-44, 0120-45, 0120-46, 0120-48, 0120-49, 0120-50, 0120-51, 0120-52, 0120-54, 0120-55, 0120-56, 0120-57, 0120-58, 0120-59, 0120-61, 0120-62, 0120-63, 0120-65, 0120-66, 0120-67, 0120-69, 0120-70, 0120-71, 0120-73, 0120-74, 0120-75, 0120-76, 0120-77, 0120-78, 0120-79, 0120-80, 0120-81, 0120-82, 0120-83, 0120-84, 0120-85, 0120-86, 0120-87, 0120-88, 0120-89, 0120-90, 0120-91, 0120-92, 0120-93, 0120-94, 0120-95, 0120-97, 0120-98, 0120-99, 0120-100, 0120-101, 0120-102, 0120-103, 0120-104, 0120-105, 0120-106, 0120-107, 0120-110, 0120-112, 0120-113, 0120-114, 0120-116, 0120-117, 0120-118, 0120-119, 0120-120, 0120-121, 0120-122, 0120-123, 0120-125, 0120-126, 0120-127, 0120-128, 0120-129, 0120-130, 0120-133, 0120-135, 0120-136, 0120-137, 0120-138, 0120-139, 0120-140, 0120-141, 0120-143, 0120-144, 0120-145, 0120-146, 0120-147, 0120-150, 0120-151, 0120-154, 0120-156, 0120-157, 0120-158, 0120-159, 0120-160, 0120-161, 0120-162, 0120-163, 0120-164, 0120-165, 0120-166, 0120-167, 0120-168, 0120-169, 0120-170, 0120-171, 0120-172, 0120-173, 0120-174, 0120-176, 0120-177, 0120-178, 0120-179, 0120-181, 0120-182, 0120-184, 0120-185, 0120-186, 0120-187, 0120-188, 0120-189, 0120-190, 0120-192,

0120-193, 0120-194, 0120-195, 0120-196, 0120-197, 0120-199, 0120-200, 0120-201, 0120-202, 0120-203, 0120-204, 0120-205, 0120-206, 0120-207, 0120-208, 0120-209, 0120-210, 0120-211, 0120-212, 0120-213, 0120-214, 0120-215, 0120-216, 0120-217, 0120-218, 0120-219, 0120-221, 0120-222, 0120-223, 0120-224, 0120-225, 0120-226, 0120-227, 0120-229, 0120-230, 0120-231, 0120-232, 0120-233, 0120-234, 0120-236, 0120-237, 0120-238, 0120-239, 0120-241, 0120-242, 0120-244, 0120-246, 0120-247, 0120-248, 0120-249, 0120-250, 0120-252, 0120-253, 0120-254, 0120-255, 0120-256, 0120-257, 0120-258, 0120-259, 0120-260, 0120-261, 0120-262, 0120-263, 0120-264, 0120-265, 0120-266, 0120-267, 0120-268, 0120-269, 0120-270, 0120-271, 0120-274, 0120-275, 0120-276, 0120-277, 0120-278, 0120-280, 0120-281, 0120-282, 0120-283, 0120-284, 0120-285, 0120-287, 0120-288, 0120-289, 0120-290, 0120-291, 0120-292, 0120-293, 0120-294, 0120-296, 0120-297, 0120-299, 0120-300, 0120-301, 0120-302, 0120-303, 0120-304, 0120-305, 0120-306, 0120-307, 0120-309, 0121-1, 0123-1, 0121-3, 0121-4, 0123-4, 0124-1, 0124-2, 0125-1, 0126-1, 0127-1, 0187-1, 0188-2, 0188-4, 0189-1, 0190-1, 0191-1, 0192-1, 0193-1, 0191-3, 0194-1, 0195-1, 0196-1, 0196-2, 0198-1, 0201-1, 0201-2, 0201-4, 0202-1, 0202-3, 0202-4, 0204-1, 0205-1, 0205-3, 0208-1, 0208-2, 0209-1, 0210-3, 0211-1, 0212-1, 0213-1, 0213-2, 0215-1, 0217-1, 0218-1, 0219-1, 0219-2, 0219-4, 0222-2, 0222-3, 0223-1, 0224-1, 0224-2, 0225-1, 0225-2, 0226-1, 0227-1, 0228-1, 0229-1, 0230-1, 0231-1, 0232-1, 0233-1, 0234-1, 0235-1, 0236-1, 0236-2, 0237-1, 0238-1, 0239-1, 0239-2, 0240-1, 0240-2, 0241-1, 0241-2, 0242-1, 0242-2, 0243-1, 0244-1, 0244-2, 0245-1, 0246-1, 0247-1, 0248-1, 0249-1, 0250-1, 0251-1, 0251-2, 0252-2, 0253-1, 0253-2, 0254-1, 0255-1, 0256-1, 0257-1, 0258-2, 0259-1, 0260-1, 0262-1, 0263-2, 0264-2, 0265-1, 0267-1, 0271-2, 0272-1, 0273-1, 0273-2, 0277-1, 0279-1, 0281-2, 0282-2, 0288-2, 0289-1, 0290-1, 0291-1, 0296-1, 0299-1, 0302-1, 0303-2

The comments express general support for and encouragement of the proposed amended regulation for a variety of reasons, including:

- Concern about climate change and the need for reduction in greenhouse gas emissions
- The need for sustainability and the availability of affordable, clean energy alternatives
- Concerns about protection of public health, safety, and natural resources, such as land, water, air, and wildlife
- Concerns about worker safety
- Concerns about environmental equity and environmental justice and wildfires
- Concerns about the use of toxic or unknown chemicals
- A desire for climate leadership to create a model for states and countries across the globe to follow
- Apathy of young people with little hope for the future so they do not engage civically.

- The overturn of Measure Z in Monterey County by a judge who overturned the will of the community.
- Some commenters also wanted to halt other dangerous drilling practices including steam based EOR. This is responded to in this document in the section “Response to Comments Requesting Other Restrictions and Environmental Effects.”

0093-1

On behalf of the Santa Clara Valley Water District (Valley Water), we support the adoption of a permanent phase-out of Well Stimulation Treatment (WST) or fracking permitting in California. Valley Water is the wholesale water supply, groundwater management, flood protection, and environmental stewardship agency serving 2 million residents and thousands of job-creating Silicon Valley businesses in Santa Clara County. Valley Water is also the Groundwater Sustainability Agency for Santa Clara County and manages two groundwater basins. Our region depends on these groundwater basins for half of the water used in the county. We also store water in the SemiTropic Groundwater Bank in Kern County. As such it is imperative that Valley Water protect water quality by supporting a ban on fracking. Well Stimulation Treatments (WST) are a fracking technique used to facilitate oil and gas production. While fracking is not currently in use in Santa Clara County, several sites in the region have been identified with the potential for the fracking process. Fortunately, the practice is not in place in our local area and seems to be on hold for the foreseeable future. That is not the case in Kern County and the potential for impacts to groundwater banks is a major water quality concern. Phasing out fracking statewide will prevent the contamination of groundwater basins by hazardous chemicals used during the process and reduce the associated greenhouse gas emissions. The effects greenhouse gas emissions, the primary cause of climate change, have numerous detrimental impacts to the health and availability of Valley Water’s water supply. It is important to reduce greenhouse gas emissions to decrease the risk of droughts, floods, and sea level rise, as well as to prevent groundwater contamination to maintain a safe, clean, and reliable water supply. As such, Valley Water is committed to carbon neutrality and actively works to reduce the impacts of climate change and ensure the sustainability of our water supply.

0102-4, 0120-53

WSTs and conventional oil recovery present clear threats to water resources. Oil corporations often source their water from groundwater aquifers that, with drought driven diminishment in surface flows, are increasingly important sources of drinking and domestic water supplies for communities. Moreover, drilling operations produce waste

which is often injected into underground aquifers. These waste disposal injections risk contaminating valuable sources of groundwater for drinking domestic purposes and irrigated agriculture. Abandoned or non-operational wells can also create pathways for contamination. Conventional oil extraction diverts water away from critical and finite supplies needed for drinking, domestic purposes, and agriculture. WSTs exacerbate this threat by prolonging operation of old, inefficient facilities and increasing underground waste injections. We strongly support CalGEM's proposed phase-out of WSTs.

0102-5

Oil and gas recovery is harmful to biological resources, with vibrations and noise/light pollution disrupting essential wildlife behaviors. Oil seeps can kill plants, trap wildlife, and contaminate water supplies relied on by animals. Likewise, stormwater runoff from oil field roads has been identified as a threat to endangered species like the California tiger salamander. More directly, oil exploration, siting, extraction, and roads fragment habitat and increase roadkill mortality for "amphibians, reptiles, and mammals, including special-status species that are active at night, such as California tiger salamanders, western spadefoot, and California red-legged frogs." These impacts are extended and intensified by WSTs. To mitigate the impacts of oil and gas development on biological resources, our organizations support CalGEM's proposed phase-out of WSTs.

0117-5, 0301-2

CalGEM's Initial Statement of Reasons highlights the perceived impacts of fracking and the psychosocial effects on well-being on Californians. While increased anxiety, depression and other harms to mental health should properly be considered in the rulemaking, CalGEM should clarify in its final statement of reasons that the physical harms of well stimulation are real and well-documented. In 2015, the California Council on Science and Technology (CCST) reviewed existing studies of fracking and other forms of well stimulation in California, and found these practices may pose significant risks to health, air, water, wildlife. The CCST concluded that there are environmental and health risks that may not be fully mitigated under CalGEM's regulations. Several factors in fact made fracking in California particularly concerning compared to fracking in other states. For example, fracking in California occurs at much shallower depths, closer to groundwater resources. California's groundwater is also more mobile, making contamination containment difficult if not impossible. California's more active and complex underground faults could create pathways for chemicals. Well stimulation in California takes place largely in older, established fields with densely groups wells, wells constructed under antiquated safety standards, wells that are undocumented,

and degrading infrastructure. The Repository for Oil and Gas Energy Research (ROGER) houses close to 2,000 studies on the wide-ranging effects of fracking.

Air and Health Impacts: Oil and gas development has direct, indirect, and cumulative impacts on air quality which can in turn threaten public health. As documented in more than 110 studies, toxic air pollution accompanies fracking. More than 200 airborne chemical contaminants have been detected near drilling and fracking operations, and air monitoring has confirmed strikingly high levels of toxic air pollutants in communities near these sites. Of these chemicals, 61 are classified as hazardous air pollutants with known health risks, including the potent carcinogens benzene and formaldehyde. Additional fracking-related air pollutants include diesel exhaust, fine particles, hydrogen sulfide gas, nitrogen oxides, chlorine, and other chemical precursors of ground-level ozone (smog), which can damage respiratory, cardiovascular, and nervous systems. In many cases, concentrations of fracking-related air pollutants in communities where people live and work exceed federal safety standards, even in some rural communities. Research shows that air emissions from fracking and flaring can drift and pollute the air hundreds of miles downwind. Of great concern are the disproportionate impacts of well stimulation and oil and gas extraction posed to vulnerable populations, including environmental justice communities, pregnant women and children. For pregnant women, living closer to drilling sites is associated with a higher risk of having babies with birth defects, high-risk pregnancies and premature births, and low-birthweight babies. A study commissioned by the California Air Resources Board detected 22 compounds recognized as known or potential carcinogens by state, federal, or international agencies. Studies in other states have similarly documented dozens of harmful chemicals emitted from well stimulation operations.

Harm to Water from Fracking: Fracking has caused numerous incidents of groundwater contamination across the county. Fracking also commandeers a significant portion of the state's water supply, especially in the Central Valley, where water is already scarce and becoming scarcer as future droughts become more frequent and severe. Fracking itself has consumed 319 million gallons of water per year. Ninety-one percent of water used for fracking is freshwater, and more than 70% came from an irrigation or municipal water supplier, meaning the operators are in direct competition with farmers and residences in the area.

0064-1

Commenter supports the distinction in the current rulemaking to phase-out well stimulation permitting for oil and gas production operations only. Hydraulic fracturing as used in oil and gas operations poses substantially different risks and benefits as

compared to its use in geothermal energy, and it is appropriate to establish separate regulatory regimes for the two types of operations. That separation is important to continue enabling advancements and innovations in geothermal technology. For next-generation geothermal to successfully scale up and develop in California, continuing to allow well stimulation for geothermal operations will be necessary. EGS is in its early stages and has great potential to be a high-energy-density, zero-carbon, and always available energy source. If appropriate monitoring procedures and safeguards are in place, risks related to well stimulation can be extremely minimal. It is important to keep all avenues open, especially for superhot rock EGS which, if developed and implemented, can be a long-term, renewable energy solution.

0120-2, 0120-20, 0120-47, 0120-64, 0120-72, 0120-109, 0120-124, 0120-251, 0120-295, 0210-1, 0222-1, 0232-2

The comments express support for and encouragement of the proposed amended regulation over concerns about earthquakes and other seismic activity related to WST operations.

0120-24

Can we please honor our Creator by respecting his creation, and yes it includes Mother Nature

0120-142, 0120-43

Because fracking contains proprietary processes, we have no idea what poisons they are additionally polluting with. Find out what combination of dangerous chemicals the oil explorers use to pump in to the ground water and flush the oil out. We who drink water and use ground facilities are entitled to know.

0120-108, 0120-31, 0120-60, 0120-149, 0120-153, 0120-183, 0120-198, 0120-240, 0120-243, 0127-2, 0200-1, 0260-2, 0261-1, 0262-2, 0263-1, 0264-1, 0265-2, 0266-1, 0268-1, 0269-1, 0270-1, 0271-1, 0272-2, 0273-3, 0274-1, 0275-1, 0276-1, 0277-2, 0278-1, 0279-2, 0280-1, 0281-1, 0282-1, 0283-1, 0284-1, 0285-1, 0286-2, 0287-1, 0290-2, 0291-2, 0292-1, 0293-1, 0294-1, 0295-1, 0296-2, 0297-1, 0298-1, 0299-2, 0300-1, 0301-1

Comments express appreciation to Supervisor Ito for his climate leadership and support the proposed amended regulation for a variety of reasons, including: climate change; protection of public health, safety, and natural resources; environmental justice; and environmental equity. The comments also urge ending approvals for any new oil and gas production in California.

0088-1

If we manage to succeed in this effort it will be difficult, likely very difficult. We need to accept that, and the “public” needs to be informed, honestly, of the potential difficulties. The inevitable resistance will be easier to overcome if the public is onboard and well informed. And most importantly, if we don’t succeed or worse, don’t even try, things will be catastrophic, not just difficult. I hope there is an understanding at CalGEM that “business as usual” is no longer viable and must not be promoted. Its bullet-biting time for all of us.

0117-3, 0123-2

The regulations align with CalGEM’s statutory mandates including PRC sections 3106, 3011 3013, and 3160. In addition, CalGEM has the discretion to approve or deny any application for well stimulation based on an “evaluat[ion of the] quantifiable risk” of the well stimulation treatment. (PRC section 3160). The risks identified provide ample basis for denying any and all permit applications for well stimulation. CalGEM must also regulate the oil and gas industry to “encourage the wise development” of oil and gas resources to best meet oil and gas needs of the state (PRC section 3106). In considering wise development CalGEM must consider fracking’s threats to climate and public health and safety. CalGEM also correctly points to expected decrease in fossil fuel demand as the state moves away from hydrocarbons toward clean and renewable energy. Clearly, the energy needs of the state no longer call for rampant fossil fuel production. Under these circumstances, where the state must use every available means to fight climate change and protect frontline communities from the harms of oil and gas pollution, continued oil and gas production does not constitute wise development, whether from well stimulation or otherwise.

0197-1

NRDC strongly supports the proposed rule phasing out well stimulation treatments. CalGEM has laid out an excellent factual and legal case in its supporting documents for taking this step. We appreciate and support its well-reasoned and full-throated articulation of its authority to phase out drilling methods when those methods are demonstrated to be harmful to public health. As CalGEM has explained the authority is inherent in its authority to supervise operations so as to prevent damage to life, health, property and natural resources, according to the statute, and to reduce greenhouse gas emissions. CalGEM has also appropriately recognized that nothing in current law requires issuance of well stimulation treatment permits. CalGEM has been given broad discretion in that regard in the law and we appreciate its decision to exercise that discretion in a manner that protects the public and furthers the state’s climate goals. It is now beyond high time for the state to take a step of putting an end to well

stimulation. It is a dangerous artifact of an antiquated system that no longer reflects its values. For these reasons we look forward to the swift completion of its rulemaking.

0048-1

Commenter strongly supports the plan to end fracking in California. Fracking is dangerous and completely unnecessary. Fracking injects millions of gallons of toxic chemicals into our groundwater while at the same time it wastes millions of gallons of water. Fracked ground also makes earthquakes more likely. It's not even possible to undo all of the damage that fracking causes. It's not possible to restabilize the ground beneath our feet or remove chemicals that flow miles away from where they are injected. Meanwhile, climate catastrophes are costing us billions in damage, drought and famine around the world. The only safe options are to stop oil and gas drilling and invest in renewable clean energy, I urge you to finish the job and go further by ending approvals of any new oil and gas production in California.

0223-3

It's time to speed up the phase out and focus on equitable transition for workers in communities as we end harmful oil and gas extraction.

0252-1

Fracking should be completely turned off by 2030.

0288-1

Fracking passed by 2 votes while Governor Brown was President [sic]. It has and always will be an industry that has not been widely accepted in California.

0303-1

Fracking adds known carcinogens to our ground water, which Californians use to grow food, bathe, cook, and drink.

Response to Comments in Support of the Rulemaking

ACCEPTED IN PART. The Department acknowledges the many comments in support of this rulemaking. This rulemaking to prohibit new permits to conduct WST aims to protect life; property; public health and safety; and environmental quality, including mitigating greenhouse emissions associated with the development of hydrocarbon resources. It is not the purpose of the rulemaking to end oil and gas production in California, and establishing a new regulatory regime to phase out other production operations, including cyclic steaming, is outside the scope of this rulemaking action.

Comments in General Opposition

0178-1

Commenter wants to express strong opposition to the proposed regulation concerning the above listed subject. CalGEM has no business promulgating this new regulation and needs to figure out how to support the oil industry instead of finding ways of shutting it down.

0132-1, 0133-1, 0186-1

Commenters respectfully request that the Department continue to process and issue needed well stimulation treatment permits for petroleum producers throughout our state. All Californians look forward to a clean energy future and we need California-produced oil to reach that goal. Petroleum production and WST in California occurs under the strongest environmental and public health protections anywhere. Much of our state-wide production relies on WST and the permits that make that possible. As mineral rights owners, we are part of the vital supply chain that produces needed petroleum products for consumers in California and we have a stake in the continued issuance of WST permits.

0129-1

The reality is that oil is a traditional energy source that will remain central and essential to modern life in California, the United States and the world well after most people are driving electric vehicles and depending upon renewable energy for their electricity. The continuing political intention to double down on the unrealistic transition to renewable energy and EV's at the cost to fossil fuels won't happen without energy security. For the next several decades, this necessitates access to a diverse and reliable array of energy sources-including fossil fuels.

0090-5

Are Californian's clamoring to change their lifestyle? What gives you the idea that we 39 million residents want to change our daily lives to the degree needed to affect planetary warming? Among the many things that society holds dear – our military security, affordable transportation to stay connected with loved ones, freedom of choice – do rash changes to our everyday lives to reduce perceived greenhouse gases rank near the top?

0134-1

Having a focus on areas creating problems is understood. When the disproportionate labor allocation is explained, one wonders what engagement has been made with the oil operations to help streamline the permitting and CalGEM Costs. Is each of these permits so unique that streamlining cannot be a solution? What about an AI program designed to streamline? The operators and governmental officials in the Kern County area should have motivation to streamline what is being described as an excessively labor intensive process. To essentially mandate the closure of any industry due to governmental regulatory costs is short sighted at best.

0134-2, 0134-9

Commenter is generally opposed to the rulemaking action. The endless stream of public comments on fracking are not objective or fact based. Where items are actionable, CalGEM should be working with the operators and fracking companies for improvement. Fracking is a solution to improved oil recovery or operators would not be fracking. Generally if a problem seeking improvement can be identified, improvement solutions can be found. To demonize a useful tool is not an appropriate approach to problem solving. We are not processing food here, just trying to extract more oil.

0134-6

Of particular concern to comment is the management of the disposal of produced water; on a routine basis produced water disposal wells have to be stimulated to remove deposits in the perforations that restrict water flow to the deep underground disposal zone. State and local authority has prohibited drilling and lenders are not reluctant to lend to California's oil industry. Is CalGEM now signaling that oil fields with limited need for WST are more likely to have permits for drilling approved? Will permits be issued for drilling or sidetracking any new wells at any new wells at any time in the near future?

0134-9

One would think different types of stimulation are safe than others. On our lease, stimulation has been used infrequently. Primarily by using hot produced oil on the lease to breakdown waxes. Seems like the Notice of Proposed Rulemaking needs to be more explanatory and to differentiate processes based on, at least, purpose and safety. Preventing damage, safety, and health on a lease is understood. No lessor or operator either wants to or can risk using unsafe practices or processes. On the issue of Greenhouse Gases in the Objectives and Benefits, I see another mention of greenhouse gas emissions. Our lease has a sniffer for checking flanges, etc. Our record of cooperation and compliance with the VCAPCD is excellent. Any lease should at any time be ready for an inspection and be confident in a clean outcome.

All leases must be operated according to the highest standards of compliance and safety. No argument for me and my operator.

0149-2

There is no scientific basis for these new regulations as the current restrictions already overreach. Californians that actually understand the regulations and their impact oppose these changes. Those that support it only want to hurt the industry and know this will do that and do not have legitimate reasons for these changes.

0153-1

Commenter strongly disagrees with CalGEM on the proposed permitting ban to eliminate hydraulic fracturing, or well stimulations which may include acid jobs and cyclic steaming.

0136-1

Are you kidding me! This is the bread and butter of the California oil industry! Do your homework and don't bend to the enviroterrorists! They don't care about this state and haven't done their homework! Do you want \$8 gasoline in this state? Electrification is not yet viable in California, and it has the most infrastructure of any state. Commenter wants to go on record as opposed to the proposed ban!

0185-2

As a people, we fled England long ago to escape governmental confiscation of property without compensation. This proposed regulation, combined with the myriad of draconian rule changes in place (and those about to be in place) do very well to destroy our business, which has been built over the past 33 years. Commenter asks the Supervisor how he and his employees would feel if literally every week, from many angles, you went to the office and were bombarded with new proposed rules which were 180 degrees counter to how the industry has conducted itself for decades. From commenter's vantage point, it's frightening.

0090-1

Homelessness, declining jobs, and inflation hit our families right between the eyes, yet the state considers further constraints on exercise of our mineral rights and loss of more jobs?! Now is not the time.

0141-1, 0155-1, 0173-1, 0179-1, 0181-1

Commenters write to express strong opposition to the proposed regulation aiming to phase out well stimulation in California. CalGEM cannot have its cake and eat it too.

While CalGEM asks small oil and gas producers for hundreds of millions of dollars in bonding under AB1057, it also seeks to implement regulations like these that impact local oil and gas production. Accordingly, CalGEM is banning a way for these producers to be able to continue to thrive as healthy businesses. CalGEM cannot have it both ways without any consequences. Local oil and gas producers must be supported and allowed to thrive by supplying the Golden State with its essential energy resources in the safest and environmentally just production possible. It is only then that we can build true solutions to meet California's unwavering energy needs, including 1.6 million barrels of daily oil demand.

Response to Comments in General Opposition

NOT ACCEPTED. The Department acknowledges the many comments in opposition to this rulemaking. CalGEM carries out its regulatory authority under a legislative mandate to encourage the wise development of oil and gas resources while preventing damage to life, health, property, and natural resources, including underground and surface waters suitable for domestic or irrigation purposes. Undertaking this discretionary balance necessarily implicates CalGEM's expertise in the field of oil and gas development. This rulemaking to prohibit new permits to conduct WST aims to protect life; property; public health and safety; and environmental quality, including mitigating greenhouse emissions associated with the development of hydrocarbon resources. The proposed change is necessary to implement Public Resources Code sections 3011, 3106, and 3160, as it is necessary to prevent damage to life, health, property, and natural resources and to protect public health, public safety, and environmental quality, including the mitigation and reduction of greenhouse gas emissions associated with oil and gas development.

The rulemaking prohibiting new WST permitting has been phased in over a period of several years. On September 23, 2020, Governor Newsom issued an executive order (EO N-79-20, 2020) related to environmental protections, in which he expressed commitment to a broader statewide shift away from fossil fuel production and consumption. In April 2021, consistent with CalGEM's updated statutory purposes, the Governor directed CalGEM to initiate a rulemaking process that would permanently phase out WST permits by 2024. CalGEM began a process of pre-rulemaking public engagement in May 2021 and commenced formal rulemaking in February 2024.

In response to the comment suggesting process changes to streamline evaluation of permit application, CalGEM's processes for review of applications for permits other than WST permits are outside the scope of this rulemaking action.

Comments Questioning Benefits of Rulemaking

0028-3

The benefits cited (which the agency also claim as its source for its authority for this regulation) come from the assumed results from decreasing the burning of fossil fuels. The regulation clearly does not do this. It simply makes it harder to produce the fuels domestically. It changes the entities from whom the fuel is purchased. This seems counter to the President's current efforts to reverse the trend of exporting factories and importing products.

0029-2

Your analysis states several erroneous nonmonetary benefits:

1. Hydraulic fracturing has essentially no effect on pollution exposure, especially in the California fields where it has been used for 60 years.
2. Worker injuries will not be avoided because the increase in imported oil results in at least equivalent injuries on foreign produced oil, tanker travel, lightering, and unloading at California ports.
3. There are not housing or other residences anywhere near where hydraulic fracturing has been used in California, so it has not created a burden on low-income and disadvantaged communities. In fact, hydraulic fracturing has provided well-paying jobs in the past to outlying Kern County communities such as Lost Hills, Taft, and McKittrick.
4. There has been no damage to water and soil where hydraulic fracturing is practiced because the soil has already been impacted by oil field operations and fresh groundwater is nonexistent.
5. There has been no damage to wildlife for the same reason. There are no additional wildlife impacts in the fields where hydraulic fracturing has been used because oil field pads and roads already exist.
6. High carbon intensity crude production is increased by eliminating hydraulic fracturing because the crude will be produced and imported from foreign countries which do not meet California's stringent requirements and has to be tankered by ships burning high carbon intensive bunker fuel.
7. There is no impact on vulnerable populations.
8. Concern about increases in anxiety and fear associated with public concern around hydraulic fracturing is ridiculous. You had to make that up!

0054-3, 0096-4

CalGEM has no scientific or regulatory basis for the proposed regulation except for serving the goal of putting oil and gas production out of business in the State of

California. This regulation will have real world consequences, including lost jobs and lost tax revenue to pay for road improvements, schools, police, and fire services. These impacts will hit hardest in the Central Valley, a region with the highest rates of poverty in the State. We urge CalGEM to halt processing of the draft regulation which is both illegal and not supported by CalGEM's own data.

0089-1

The proposed rulemaking is a clear example of emotion-based policy making on behalf of the State. The negative impacts of WST permitting phase-out are many and quantifiable: elimination of both state and private sector jobs, reduction in tax revenue, loss of businesses, inability of businesses in California to compete with out of state businesses, and increased reliance on foreign source of crude oil, to name a few. While the potential benefits are qualitative and not backed by research.

0090-3

What public health impacts are observed? With high tension powerlines, raw sewage lift stations, proximity to microwaves, next to traffic and auto body shows and exposed to digital devices – and yet somehow you discern specific, special health risks associated with well stimulation that takes place thousands of feet below the surface? Hard to believe.

0090-6

There is no established health basis to justify the WST ban, especially when compared to importing more oil as the alternative, and not overriding citizen mandate to upset our very lifestyle. Count me as objecting to the proposed WST Phase-out which reads as a punitive measure against your very citizens who have invested in supporting infrastructure for the communities in which we live.

0128-5

The prohibition of WST is based on flawed or unsubstantiated health studies.

0024-1

The proposed WST ban is political virtue signaling and is not based on credible science. It does nothing to reduce overall oil production or the use of WST. It just shifts it from California to other states and countries that California has no control over. Overall GHG emissions will not be reduced and will likely increase due to the additional GHG emissions generated by shipping the oil from the middle east and South America.

0024-2

Most WST occurs in Kern County, but there is no credible evidence WST has caused a negative impact on Kern County residents. To the contrary, WST and oil production has provided thousands of highly paid, mostly union jobs and lifted many families out of poverty. A WST ban will significantly reduce tax revenue in California and negatively impact services to California residents. I urge CalGEM to reject the WST ban and stop the attacks on oil production in California.

0055-4

Land use determinations are the basis of economic development for counties and cities. Approving or denying projects for appropriate reasons is the very basis of the Government Code and review under the California Environmental Quality Act (CEQA). CalGEM has proposed a new and decidedly troubling basis for this proposed WST ban with its statements regarding the public health benefits of reduced anxiety and fear associated with public concerns around WST. Among the reasons for phasing out permits, CalGEM cited widespread public concern and dissatisfaction regarding hydraulic fracking activities and perceived impacts associated with it that have continued to intensify in the years since it started a thorough permitting process for the practice. While we concur there are studies showing that anxieties and fears in modern life contribute to poor health outcomes, for a state agency to use this reasoning as the basis of a decision on this proposed WST ban will open a pathway for opposition to other projects and pose legal consequences that are not based on scientific facts. While a person having anxiety and fear about a project's impacts on their homes and families may be real, the impacts they fear may not be. Commenter, as a land use agency, receives many comments regarding fears around land use decisions.

The following is a list of real-life comments on projects that Commenter has processed:

- Fear of ground mount solar projects causing high-frequency electromagnetic fields that will cause cancer.
- Anxiety about electromagnetic fields from the overhead transmission lines along roadways.
- Anxiety about a high pitched noise that can be heard in a house over half a mile away.
- Anxiety about solar projects causing snakes and rodent infestations.
- Fires and resultant fumes from lithium battery storage no matter how far away or what requirements the fire department places on them.
- Wind machine blades pinning off the machines and crashing into cars as they drive on roads miles from the wind location.
- Run-off from solar panels contaminating the groundwater with heavy metals.

- Anxiety over the loss of open space, views, and animals in the desert due to a solar project installation.
- Extreme anxiety about having to now jog past a new religious cemetery.
- Fear of increasing crime and personal threats if a new apartment building rents to low income people
- Fear of increasing crime and personal threats if a new supporting housing facility for the homeless is built near them.

Such comments are important in the public process and should be investigated for facts about the impacts, discussed and explained to the public with known and appropriate mitigation measures to reduce any fact-based impacts. If however, the State now believes we should ban or deny projects based on a determination that the emotional stability of an individual person even if the facts do not support their fears, is a land use impact, and outweighs any economic, social, or housing benefits or property rights of the landowner, then we will have no economy here or anywhere in California.

0027-3

Numerous studies have shown that fracking is demonstrably far safer and less environmentally damaging than mining the huge volume of materials needed to construct solar and wind farms. It takes hundreds of wind turbines and solar panels, to equal the overall electricity generated from one good natural gas well. Construction and mining accidents, disruption of habitats and pollution dwarf those of modern oil and gas production. And wind and solar only work 25% of the time. The material required for battery backup at this scale would use up the entire world's supply of cobalt and nickel. 100% renewables with battery backup are neither sustainable nor environmentally just compared to oil and natural gas.

0027-1

California has fracked and stimulated thousands of wells since the 1970's with no increase in earthquake frequency.

0026-2

Commenter would like to see published data that says fracking in California is harmful to the environment or people.

0144-1, 0199-3

Commenter opposes CalGEM's proposed regulations, not only based on legal overreach, other commenters, but on the flawed justifications outlined in the basis for

the regulation, including the Regulatory Impact Analysis, Initial Statement of Reasons, and Notice of Proposed Rulemaking Action.

Further, it is important to bring to light CalGEM's true intent in these regulations – facilitating the demise of California's oil and gas industry in a death-by-a-thousand-cuts approach. The analysis provided goes far beyond the consequences of well stimulation. CalGEM hides under the cloak of environmental justice and climate while glossing over the true consequences for California's economy and energy reality.

0055-2

The statement that there is no other alternative besides an illegal ban is inaccurate. SB 4 regulations that are referenced by the analysis do not include all feasible mitigation that has been successfully imposed by Kern County on WST permits since 2016. For example, requiring all criteria pollutants generated by the drilling and operations of the oil and gas activities to reduce emissions to no net increase is feasible. Kern has done this in conjunction with the San Joaquin Valley Air Pollution Control District through a Development Mitigation Agreement (called a VERA -Voluntary Emission Reduction Agreement by the Air District). Such mitigation would reduce the health impacts that are cited in the analysis, yet CalGem has declined to impose this feasible mitigation as well as other requirements listed in Kern County permits.

0221-1

Can you enumerate what exactly are the processes that are being controlled here? We're particularly concerned about permitted CalGEM disposal wells. Will we be able to clean those wells with chemicals, basically, to make sure that we can dispose of produced water more than 6,000 feet under the ground?

0090-2

CalGEM proposes to ban well stimulation treatment altogether even after the state adopted regulations that already address every single point of concern raised about the practice. The current rulemaking simply lacks a reasoned basis.

0130-4

The proposed rule disregards the mitigation of greenhouse gas emissions that has occurred pursuant to SB 4-mitigation measures that are not found elsewhere. Both the Lawrence Berkeley National Laboratory and the California Council on Science and Technology conclude that good management and mitigation measures can address the vast majority of potential direct impacts of well stimulation. Emissions are covered by CARB's Cap and Trade program. A memorandum of understanding between CalGEM and CARB is also focused on reducing any air pollution including greenhouse gases and Kern County collects a mitigation fee for WST activities that is transferred to the Air District to mitigate impacts through its grants and incentives program. This rule is inconsistent with CalGEM's own finding that permitting WST would result in fewer environmental impacts in comparison to imported oil.

0028-4

No entity in the world produces oil and gas more cleanly than the California oil producers. Why? Because the people who work in the California oil industry live in California, and love enjoying the natural resources, clean air, and clean water that this state has been blessed with.

0027-2

In numerous government studies investigators found that fracking wells pose little risk to the public, provided adequate regulations/enforcement were administered. Properly regulated fracking is unequivocally good for California and the world. This was not the case in many states during the early days of the fracking revolution and oil companies took advantage. Los Angeles was raped and pillaged by the industry during the early days, with hundreds of rigs fouling our beautiful beaches. We have learned from these mistakes and there are few incidents today. California has been conducting fracking since 1960 without major incidents. Rather than banning fracking, why doesn't

California work with the industry and promote clean, responsible production? It would be better in every way for Californians.

0029-1

Your analysis is based on pseudoscience and not peer reviewed hard science. You can refer to EPA studies to confirm this. Some basic facts:

1. Oil companies have conducted hydraulic fracturing operations since the 1960's in a safe, beneficial, environmentally neutral manner without any negative effects on drinking water, the environment, or human health.
2. Water and sand injected are naturally occurring and not toxic in any way. The 0.5% of chemicals used consist mainly of household chemicals that result in a benign injection product.
3. Hydraulic fracturing has only been practiced on a large scale in the North and South Belridge Fields and Lost Hills Fields in western Kern County.
4. Where those fields are located there is no fresh ground water to be contaminated even if the groundwater system was affected.
5. The groundwater system will not be affected due to impermeable and non-porous layers of rock between the depths where hydraulic fracturing takes place and the subsurface water. You can reference the past 60 years of CalGEM's own records to the practice to show this is a fact.
6. No California oil workers or humans living anywhere near hydraulic fracturing activities have been harmed from breathing in hydraulic fracturing fluids.
7. Without hydraulic fracturing operations over the past four years, California oil production has decreased well beyond the normal decline you would expect to see. In fact, combined with the lack of drilling permit approval, the normal California oil production decline rate has accelerated from 5 to 8% to close to 25%.
8. Reduction in hydraulic fracturing and drilling permits in California has resulted in California refineries importing more than 100,000 (and growing) more barrels of oil per day from foreign countries than they would have with lost California production with its strict safety and environmental standards. The result is that California has increased all worldwide greenhouse gas emissions (including methane and carbon dioxide emissions) into the atmosphere, plus more oil field injuries to foreign to foreign oil field workers, due to lax foreign country operational standards, flaring of associated methane gas with their oil production, pipeline leakage, removing the Amazon carbon sink and shipping oil to California on tankers that burn bunker fuel, one of the highest emitters of greenhouse gases in the world.

9. Nationally, where hydraulic fracturing is practiced on a large scale, the negative effects are either non-existent or very isolated and non-life threatening.

0089-2, 0128-1, 0206-2

The current WST permitting process put in place by SB 4 in 2013 established the strongest health, safety, and environmental criteria for safe oversight of WST permitting. The existing permitting structure was painstakingly developed to address all topics of concern regarding WST permitting, such as air and groundwater monitoring. Since 2013, state and federal agencies, and national laboratories have reviewed the data provided by the operators and have not found evidence of migration. Additionally extensive studies conducted by the State have demonstrated that well stimulation does not pose harm to human health or the environment.

0028-1

The reasoning bases its justification largely on hydraulic fracturing, yet blurs the language to include all types of well stimulation treatment. The attempt to therefore regulate permits for all types of well stimulation treatment reaches beyond the arguments cited for the benefits claimed.

0134-4

Protection of ground water should be routine assuming CalGEM policy and procedures are being followed on protection of well casing. What about the avoidance of the use of stranded gas by the public utilities?

0134-8

To what extent is drinking water actually being endangered by oil drilling? In the highly publicized case in a USGS paper on the Oxnard field, the author has confirmed oil well drilling did not cause water contamination. CalGEM has strengthened the requirement for cementing the casing of oil wells, down to the bottom of the casing. Is the contamination of water from drilling still in dispute? If so, where is the proof and what is being done to remediate the chance of any contamination.

0154-1

Over the past decade, WST has been studied extensively in California, without any findings of harm to human health or the environment. Any potential for harm is fully addressed by existing statutory and regulatory requirements—adopted pursuant to Senate Bill 4 (Pavley, Chapter 313, Statutes of 2013) ("SB 4") and codified in Public Resources Code §§ 3150 to 3161—as well as the long list of mitigation measures set forth in the statewide Environmental Impact Report prepared by CalGEM under SB 4.

CalGEM has not cited any data or studies to support that a WST Ban is warranted to protect human health or the environment. There is no need to prohibit WST operations in California, and CalGEM and the Governor have publicly conceded they lack authority to do so in any event.

0154-6

WST activities have been repeatedly studied in California, with no showing of harm to human health, safety or the environment. SB 4 directed the preparation of comprehensive scientific studies of the potential environmental impacts of well stimulation activities. Pub. Res. Code § 3160(a) (requiring independent scientific study of potential hazards and risks of well stimulation treatments) and § 3161(b)(3)(A) (directing preparation of an environmental impact report pursuant to the California Environmental Quality Act to provide “detailed information regarding any potential environmental impacts of well stimulation in the state”). Neither the study completed by the California Council on Science & Technology, nor the Environmental Impact Report prepared by CalGEM, documented environmental harm caused by WST activities. Furthermore, the SB 4 EIR recommended detailed mitigation measures to address any *potential* adverse environmental effects from well stimulation practices that were not already sufficiently addressed by the permanent regulations for WST required by SB 4. Properly, the emphasis was on mitigation of any such impacts rather than a ban on all WST.

Most recently, CalGEM contracted with Lawrence Livermore National Laboratory (“LLNL”) to conduct a scientific review of pending WST applications for compliance with California’s technical standards for public health, safety, and environmental protection prior to permit issuance. LLNL found that CalGEM’s assessment for these wells follows a procedure that honors the regulatory mandate. LLNL recommended approval of the permits that were reviewed over the course of its study. LLNL’s findings confirm that SB 4 and the implementing regulations comprehensively address how WST can be safely carried out, as authorized by the Legislature and permitted by CalGEM.

Furthermore, in its rulemaking documents, CalGEM has not cited any data or study to support its assumption that California needs a WST Ban to protect human health or the environment. Indeed, CalGEM admits “insufficient data is available to quantify the [or any] link between reduced production as a result of WST and reduced emissions which are necessary to see health and environmental benefits.” SRIA, 36. CalGEM further concedes “[o]ther hazards are *not directly linked to WST itself*,” *id.* (emphasis added), “but rather to the expanded Oil and Gas development enabled by WST.”

Response to Comments Questioning Benefits of Rulemaking

NOT ACCEPTED. Even though WST is highly regulated in California at the state and local level, including emissions monitoring efforts similar to Kern County's VERA program, available evidence indicates that environmental and public health impacts remain. The SB 4 EIR concluded that, at a programmatic level, activities associated with WST have the potential to cause significant and unavoidable impacts on aesthetics, air quality, biological resources, cultural resources, geology, soils and mineral resources, greenhouse gas emissions, land use and planning, risk of upset/public and worker safety, and transportation and traffic. The California Council on Science and Technology's Independent Scientific Assessment of Well Stimulation in California also concluded that there are environmental and public health risks associated with WST that may not be fully mitigated by CalGEM's regulations, such as potential direct and indirect impacts to groundwater and risks associated with use of a large number of hazardous chemicals. Since the Supervisor, under Public Resources Code section 3106, must "prevent as far as possible damage to life, health, property, and natural resources," the SB 4 EIR supports prohibiting WST to prevent these unavoidable and unmitigable harms.

Of course, as a subset of oil and gas production techniques, WST also adds to general production impacts. To better understand the public health risks of oil and gas production in California, and to help inform CalGEM's rulemaking efforts, a scientific advisory panel was assembled in October 2020. The panel reviewed available evidence and concluded "with a high level of certainty" that:

- Concentrations of health-damaging air pollutants are more concentrated near oil and gas production sites. (Shonkoff et al 2021, pg. 11.)
- There is a causal relationship between close geographic proximity to oil and gas development and adverse respiratory and perinatal outcomes. (Shonkoff et al 2021, pg. 4.)
- These conclusions apply to all California oil and gas production methods, including WST operations, even though some of the studies relied upon were conducted outside of California. (Shonkoff et al 2021, pg. 2.)

These findings were based on a review of available studies examining health impacts associated with both conventional and unconventional oil and gas production and as part of larger ongoing efforts to comprehensively assess public health benefits associated with limiting proximity of sensitive receptors to oil and gas production in

California. The findings do not pertain specifically to WST activities, but they are relevant to the proposed prohibition on WST permitting because the prohibition is estimated to reduce total oil and gas production levels.

Similarly, while it is difficult to analyze the role of WST separately and specifically in these respects, as a means of enhancing oil and gas production, WST operations are associated with occupational injuries for oil and gas workers, greenhouse gas emissions tied to extraction and refining of hydrocarbon resources, and localized impacts on the environment and natural resources.

The Department considered, but rejected, continuing to process and issue WST permits, but with stricter review processes and additional regulatory controls, such as Kern County's VERA program. CalGEM rejected this alternative because continuing to process and issue WST permits would not be as effective in carrying out the purposes of the regulation to prevent damage to life, health, property, and natural resources, and to protect public health, public safety, and environmental quality, given the increasingly urgent climate effects of fossil-fuel production and the continuing impacts of climate change and hydraulic fracturing on public health and natural resources. Even though WST is highly regulated in California, available evidence indicates that environmental and public health impacts remain.

For these and other reasons, the proposed change is necessary to implement Public Resources Code sections 3011, 3106, and 3160, as it is necessary to prevent damage to life, health, property, and natural resources, and to protect public health, public safety, and environmental quality, including the mitigation and reduction of greenhouse gas emissions associated with oil and gas development.

The Department appreciates that there are significant public concerns about other environmental and energy policy issues, including public concerns about potential environmental impacts from renewable energy projects. Examples of activities of public concern identified in Kern County's comment letter are outside the scope of this rulemaking action.

In response to the comment asking what processes are being controlled by this rulemaking action, this rulemaking action is specific to permitting for WST, as defined in Public Resources Code section 3157. The statutory definition of WST expressly excludes routine well cleanout work, routine well maintenance, routine removal of formation damage due to drilling, bottom hole pressure surveys, or routine activities that do not affect the integrity of the well or the formation.

Comments Discussing Imported Oil

0027-4

The proposed fracking legislation:

- 1) Increases emissions and environmental damage in the state
- 2) Creates more injustice for the disadvantaged
- 3) Increases the cost of energy to Californians and the risk of blackouts
- 4) Increases the potential for environmental damage in developing nations

If we ban fracking we will produce less oil and gas which will raise gasoline prices and utilities bills which disproportionately affect the disadvantaged. With less oil and gas production in state we will rely more on foreign sources. Most of our oil imports today come from Ecuador and Venezuela. No exactly paragons of human rights. By banning fracking we will import more of this oil, lining the pockets of autocrats. One of the three largest polluters of the Bay are the oil tankers going to the refineries. Banning fracking will increase bay pollution. Moreover, we know from the Exxon Valdez and other disasters, that the biggest risk to the environment from oil is caused by ship accidents. We will increase the potential for ship accidents by banning fracking in California. Some may say California produces so little oil now that it does matter. Well it does to tens of thousands of oil workers and local economies that they support. Natural gas is imported over 1000 miles of pipelines from Canada over pristine land with the potential for significant methane leaks. By banning fracking we would increase the potential for more disasters. In California gas is only piped a short distance from the wells and the inherent environmental risk is much less.

0066-1

Commenter writes to express concern that instituting a total ban on well stimulation treatment will cause unintended consequences that will be worse for the environment. CalGEM's statutory mandate to "reduce greenhouse gas emissions associated with oil and gas development" must acknowledge the state's current demand and need for oil and gas. CalGEM cannot fulfill its mandate by focusing only on the oil and gas produced in California. It must expand its view to include global emissions which affect our same environment. The question is not whether the environment would be better off if WST is banned in California but whether the oil Californians consume is more responsibly produced by a CalGEM regulated WST or an unregulated WST in foreign countries. We import over 60% of our oil daily from foreign countries with very little

environmental oversight. The intentional destruction of California oil production is an intentional import of oil produced in a less environmentally conscious manner. Commenter asks that CalGEM expand its mandate to reduce greenhouse gas emissions associated with oil and gas development to include all the production Californians consume and depend on daily.

0054-2, 0096-3

With regard to greenhouse gas emissions, all producers that have applied for and/or received well stimulation permits from CalGEM are covered under CARB's cap-and-trade regulations. Therefore, all GHG emissions of well stimulation are accounted for in CARB's scoping plan and are effectively offset by participation in this program. Given that imported foreign oil is completely exempt from the state's cap and trade program, CalGEM's claim of climate benefits from banning WST is ludicrous. This regulation will increase emissions of greenhouse gases globally and is simply another means for California government to "green-wash" its image while not actually improving the environment. The oil produced in California is the only oil processed at California refineries that meets California's climate standards. The cumulative effects of a ban on WST and cyclic steam production, combined with CalGEM's enormous permitting backlog, have resulted in a 43% reduction in in-state production since 2018. Meanwhile, Californians continue to demand 1.8 million barrels of oil per day, which is now made up of 73% foreign crude. The direct impact of banning WST will be an increase in the importation of crude oil from foreign sources which are not only completely exempt from California's strict environmental regulations but have labor and human rights practices anathema to California's values.

0163-1, 0164-1, 0170-1, 0171-1

Commenters are writing to express strong opposition to the proposed regulation that seeks to phase out well stimulation in California. This regulation threatens to abruptly end local energy production, which not only supports thousands of jobs but also contributes significantly to our state's energy independence. Ending well stimulation is just one in a slew of egregious regulatory proposals by CalGEM that would deprive Californians of the benefits of locally produced energy, leading to increased reliance on imported resources, undermining our energy reality, and proliferating an even worse climate impact.

0089-3

Californians continue to consume 1.8 million barrels of oil per day, most of which comes from countries who do not share our humanitarian and environmental values.

0090-4

What impact on greenhouse gases? Harming our natural resource production does nothing to reduce our demand for hydrocarbons. Banning production practices just outsources production overseas and harms our economy. Also, have we forgotten that not all oil produced in this state is used for fuel?

0096-5

Commenter believes it is hypocritical to stop production that is more cleanly produced here in California and to import it. The demand still exists and yet the state is doing everything it can to hurt its own producers. Does the governor still drive a car and the legislators? Even if they are electric about half of the vehicle is made from oil and gas products and they can't be built without it. I'm sure that they all use the thousands of products daily that are made from oil.

0128-7

CalGEM estimates 1442 less wells over a decade and escalating lost revenue for businesses (starting with \$23.6 mm in year one). This is a significant amount of future lost production and revenue. California already imports 60 – 70% of its needed daily crude oil and CalGEM, through this rulemaking, makes the state more dependent on foreign imports, lose more revenue, and limits the availability of good jobs for a generally disadvantaged population.

0132-2, 0133-2, 0186-2

California consumes about two million barrels of oil daily. Roughly 75% of this demand is supplied from unfriendly countries like Saudi Arabia and Iraq and environmentally sensitive locations in the Colombian and Ecuadorian rain forests. This imported petroleum is produced under labor conditions adverse to California values and comes at a significantly higher environmental cost than our domestically produced petroleum. You may or may not be aware of the carbon emissions impact from many more than needed oil tankers coming to California from foreign nations the average tanker burns 2,623 gallons of diesel fuel per hour. It is said that 22.38 pounds of carbon dioxide are created from burning one gallon of diesel fuel. So, in only one hour, a tanker ship hauling oil to a refinery in the U.S. creates 58,757.5 pounds of CO₂ into our atmosphere. Compare the numbers with carbon emissions from gas burning vehicles. California producers could provide a greater share of the state's demand and we implore you to allow them to meet that need by continuing to issue the WST permits they require. We ask that your Department continue to grant California petroleum producers the well stimulation permits they require to meet our state's demand for petroleum products.

0134-5

No one would frack if other options were available, and the product was not needed. Where does cost analysis vs the import cost of crude come into the equation for CalGEM? After all, even the fifth largest economy in the world has a vested interest in not exporting wealth to nations that are not reliable suppliers.

0134-7

Mention is made of CalGEM's duty to mitigate greenhouse gas emissions associated with the development of hydrocarbon resources. Does CalGEM have the air emissions data from our foreign oil sources? What about oil tanker emissions? Is there an air emissions case for importing more oil from Alaska or Canada if POTUS will open federal lands? Compared to California's stated policy (like in the Ventura County 2040 General Plan) language is written to plan to import oil so that California production can be shut-down as quickly as possible? Is that position justifiable on a cost, environmental, or health basis? What consideration is given to the reliability and pollution from foreign suppliers?

0134-11

The SRIA mentions "reduction in the volume of high carbon intensity of crude". Byproducts from heavy crude have a place in the refinery and by-product portion of the oil business. Among the known alternatives is the refining of Venezuelan crude. This option supports a dictatorship that is punishing the lives of its people. Not a good or moral plan.

0144-4

CalGEM's policies, including the WST at issue in this comment period, are crippling California's economy, businesses, and the livelihood of the thousands of Californians who work in the oil and gas industry. California's denial of its energy reality, and resulting addiction to foreign imports, funds human right atrocities overseas and facilitates worse climate impact. Accordingly, this regulation must not move forward.

0145-1

I, a California voting citizen, am against banning well stimulation and hydraulic fracturing. Doing this will result in more dependency on foreign countries for oil that mistreatment the environment. California oil and gas producers make diligent efforts to provide necessary goods to California while adhering to strict environmental compliance. Creating extra steps to obtain oil and gas will also increase transportation,

resulting in increasing costs for citizens. At this time, California cannot rely on solar and wind alone.

0135-1, 0148-1, 0206-3

One critical aspect that appears to be lacking in the proposal is a thorough assessment of the economic repercussions of increasing reliance on foreign oil imports to compensate for reduced domestic production. Importing oil from foreign sources not only undermines California's climate leadership, but it also effectively moves our emissions overseas, while allowing us to deny our energy reality here in the state. These countries do not share local energy producers' – nor the state of California – social environmental values. It is imperative that CalGEM comprehensively evaluate the true impact of this regulation, when considering the numerous other regulations that CalGEM is promulgating to eliminate local oil and gas production. Without a thorough understanding of these consequences, the proposed regulation will harm essential energy resource production in this state. Therefore, CalGEM must not move forward with this well-stimulation phase out and must consider the environmental impact of putting local oil and gas producers out of business in favor of imported foreign oil.

0138-1, 0139-1, 0180-2

Commenters strongly oppose the proposed regulation to phase out well stimulation in California, as it risks increasing our reliance on imported oil from countries known for human rights abuses. By curtailing domestic production, California would be forced to turn to international markets, many of which are notorious for exploitation and oppression.

Amnesty International, the United States Department of Justice, and international news organizations have documented that Saudi Arabia and the Taliban are carrying out beheadings for a variety of crimes, including murder, apostasy (abandoning Islam), homosexuality, witchcraft, or sorcery, and 'waging war on God.' Under Saudi's current regime, these capital punishments have increased dramatically. It is unacceptable for California to give regimes like this one billions of dollars while it eliminates local production.

Relying on oil imports from countries with poor human rights records not only compromises our ethical principles but also undermines our state's commitment to environmental and social responsibility. Furthermore, it perpetuates the cycle of dependency on oppressive regimes, directly contradicting California's values of justice and equality.

0144-3, 0161-1

Oil imports must offset every barrel that CalGEM eliminates in local production. This includes oil imported from foreign countries that do not share our social or environmental values as Californians. According to the U.S. Energy Information Administration, California consumed 605 million barrels of oil in 2021, and according to 2023 data, only approximately 110 million of those barrels were produced in California. Since California's demand for oil and gas is unwavering, in the face of regulatory onslaught, it is increasingly reliant on foreign oil to meet its needs. This oil must arrive at our ports via tanker, which has significant emissions impacts. Most of this oil arrives from foreign countries, including Iraq, Saudi Arabia, and Brazil. These countries do not comply with California's numerous regulations, including CEQA, nor do these countries share our social values. For example, Saudi Arabia has imprisoned women for speaking out about women's rights issues, and capital punishments have skyrocketed under the current regime. Yet, California imported over 50 million barrels of Saudi Arabian crude in 2023. That is over \$4 billion California spent on foreign crude produced by the Kingdom.

0146-1, 0149-1

Commenters are writing to express strong opposition to the proposed regulation aiming to phase out well stimulation in California. As the state heavily relies on imported foreign oil to meet its energy needs, restricting domestic production through this regulation would exacerbate our dependence on countries that do not share our social or environmental values as Californians. This would not only jeopardize our energy security but also undermine efforts towards environmental progress. Instead, commenters urge CalGEM to not promulgate this rulemaking, and to truly consider California's reliance on imported oil from countries like Iraq, Brazil, and Saudi Arabia, when regulations like those proposed displace local oil and gas production. Thank you for considering commenters' perspective.

0152-1

Each night after the solar panels fall silent, the State of California generates over 75% of its power using natural gas and coal. Citizens who charge their EV's at night are actually increasing the burning of dirty coal. On the other hand, California has abundant natural gas reserves and oil reserves. In what way does it help mitigate pollution by buying dirty oil from Iraq, Brazil, Saudi Arabia, and Russia? It increases pollution and essentially outlaws well-paying jobs for people who have families to support but lack skills to master a white collar job.

This proposed regulation aims to phase out well stimulation in California. As the state heavily relies on imported foreign oil to meet its energy needs, restricting domestic

production through this regulation would exacerbate our dependence on countries that do not share our social or environmental values as Californians. This would not only jeopardize our energy security but also undermine efforts towards environmental progress. Instead, I urge CalGEM to not promulgate this rulemaking. Producing California oil and gas directly results in cleaner air, not least of which, the Los Angeles air basin where tankers currently spew massive tons of pollutants, after crossing the globe to deliver dirty oil. Who could make this up?

0158-3

California continues to use over 1.8 million barrels of oil per day with no meaningful reduction in sight. Increasing oil imports will be the inevitable result of more in-state production curtailment. If you actually care about pollution, CO2 emissions, and environmental damage, you would do everything you can to encourage and increase in-state production, which is much lower in all of these factors than imported oil. The war on the oil industry clearly violates these values.

0162-2

There is no legitimate legal or scientific basis to justify the proposed phase-out of well stimulation in California. Instead, it appears that the state is following an irrational ideology that calls for the ban of all in-state oil and gas production. Such ideology ignores the reality of the continued need for oil to supply our in-state demand. Instead, it forces us to import from foreign sources ever increasing amounts of oil to meet that demand. This imported oil is produced in countries where the environmental regulations are not as strict as they are in California. Therefore, global greenhouse gas emissions are not reduced by shutting down California oil and gas production, they are increased. Our reliance on foreign oil poses a serious risk to our environment, economy, supply chains, and to our national security.

0163-2, 0164-2, 0170-2, 0171-2

Local energy production not only bolsters our economy, but shares our social values, and upholds California's lofty environmental standards. Oil imported from Saudi Arabia, for example, funds human rights abuses to the tune of billions of dollars a year. I urge CalGEM to reconsider this proposal and halt regulatory proposals that negatively impact local oil and gas production.

0185-1

Commenter strongly opposes the proposed regulation to phase out well stimulation in California because the proposed rules would increase our reliance on foreign oil to meet California's energy needs. Despite general lip service to the contrary, the use of fossil fuels in California is not waning and the hypocrisy of those demanding the elimination oil and gas while concurrently consuming it, simply lays bare the intent of eliminating the oil and gas industry in California. This will lead to rapid increases in imports from countries that have no environmental protection. According to the California Energy Commission, California imported more than \$4 billion in oil from Saudia Arabia last year.

0131-1

The proposed WST phase out does not have any scientific evidence to warrant and would further our dependence on foreign oil that is not environmentally friendly. We need to be realistic on our environmental impact and understand that every barrel of oil we phase out locally, a less environmentally friendly barrel will be imported with a negative environmental impact. Our consumption of oil and gas is not able to change anytime soon. Our local producers and CalGEM have so many rules and regulations to follow to ensure safe and environmentally safe production.

0184-4

Commenter opposes the regulation –that would result in the increased importation of energy not just from foreign countries with lower energy production standards than in California but from other states that rely on coal for the production of energy. What sense would it make to eliminate energy production in California merely to increase importation of dirtier energy from abroad and other states?

0130-3

The proposed rule is inconsistent with CalGEM's own findings that prohibiting WST would increase adverse environmental impacts. The rule lacks scientific support. CalGEM previously found, in the SB 4 EIR, that permitting WST would result in fewer adverse environmental impacts than prohibiting it. Specifically CalGEM expressly found that alternatives would increase the importation of oil into California and would lead to higher global GHG emission, the lost oil will come from the Middle East, North Dakota or other parts of the nation and world with less stringent environmental laws. Since 2009, the percent of foreign oil imports to California has increased to 50% and California has only grown more dependent on foreign oil since the EIR was certified. In 2022, 59% of the state's oil was imported. This switch to greater reliance on imported fuels will lead to more GHG emissions as they will not be subject to the regulation and mitigation of emissions that happens in California and does not happen elsewhere. The CCST report found that oil produced in California emits less greenhouse gas per barrel than the average barrel imported to California. Lawrence Berkeley National Laboratory developed the findings for that study and also found that "oil produced in California using hydraulic fracturing emits less greenhouse gas per barrel than the average barrel imported to California." Accordingly overall GHG emissions could increase if well stimulation were stopped in California. A reduction in California's production by banning WST would only exacerbate the adverse environmental impacts caused by increasing reliance on imported oil. The proposed rule is not an efficient or effective policy to affect global climate change and will serve only to damage California's economy and the livelihoods of thousands of people in this State.

0199-2

CalGEM says that only a small percentage of oil produced in California, about 12.11 percent, will be affected by this rulemaking, however, that's over 13 million barrels a year of California's unwavering 1.6 million barrels of consumption a day. At \$80 per barrel, that's over \$1 billion that CalGEM is making the State of California pay for foreign crude as it bends over to NGOs and their fearmongering. Importantly, Amnesty International, the United States Department of Justice and international news organizations have documented that Saudi Arabia and the Taliban are carrying out beheadings for a variety of crimes, including murder, apostasy, homosexuality, witchcraft, sorcery and waging war on God. Saudi Arabia is one of the largest sources of foreign oil. And over 50 million barrels of Saudi Arabian crude were imported by California in 2023, bringing Saudi Arabia into one of the largest sources of foreign oil to California. And that's over \$4 billion we paid to fund these human rights atrocities in 2023.

0221-2

Big oil in this equation is actually the national oil companies of Saudi Arabia, Iraq, Ecuador, and Columbia. There is more than 75 percent of all oil in California that is imported. We don't have a pipeline to Texas and we pay a lot of money for that. We lose the taxation and the opportunity to spend money in California. Everyone should be aware of that. We all understand that the amount of oil is depleting rather rapidly but we also should be looking at the economic impacts of that and also, basically, the moral impacts of who we do business with.

0177-1

Commenter is outraged by the unsubstantiated claims made by the legacy environmentalists group on the subject of Well stimulation practices. Read "Fossil Future" by Alex Epstein to inform yourselves about the serious nature of eliminating safe steam injection well stimulation. California is leading the world in responsible and safe oil extraction technologies. Take a look at where and how California is getting crude oil from elsewhere (Amazon rainforest, Guyana, Russia and Nigeria). They have non-ecofriendly oil production practices!!! Think before you speak in protest.

0182-1

Please accept this letter in opposition to the proposed new regulation to phase out well stimulation which will have a severe detrimental effect to the oil and gas industry. As a 73 year old oil and gas royalty owner, commenter depends on oil royalty payments to pay daily living expenses. Commenter is one of tens of thousands of

California oil royalty owners who also depend on this income to help with increasing living costs. Instead of relying on the increasing dirty imported oil from countries that have poor human rights and environmental records why not as a responsible state energy agency promote energy that is produced in a much cleaner manner such as California oil and gas along with other forms of energy including wind and solar. Commenter is sure CalGEM's aware the unnecessary phasing out of well stimulation will affect many thousands of jobs and small business owners directly and indirectly. Commenter respectfully urges CalGem to reconsider this proposal and consider California's values of human rights and environmental stewardship.

0183-1

As a longtime oil royalty owner, commenter is strongly opposed to CalGEM's proposed regulation to phase out well stimulation in California. Commenter doesn't understand why CalGEM is even considering this proposal. Commenter for one counts on the royalties received from small independent producers. Without stimulation some wells would have to be shut-in. With California's dependence on foreign oil, commenter again asks why would CalGEM want to jeopardize jobs, the loss to small producers, those of us dependent on royalties and even the environment by allowing foreign oil into California when we could produce it right here. Please reconsider CalGEM's proposal and not move forward with the regulation.

0199-1

Commenter urges CalGEM to not move forward with this rulemaking and to add a dose of reality of California's consumption of oil into this conversation as well as highlighting the human rights atrocities that are committed when California feigns climate leadership in favor of foreign imports while eliminating local jobs and having a stark impact on our local economies, which is glossed over in the justification for the regulation but must be emphasized.

0184-1

Commenters oppose CalGEM's proposed phase-out of well stimulation (WST) permitting. Our primary concern is the environment. It makes more sense to produce energy in California—where energy production standards are perhaps the highest in the world—than to import energy from abroad, where there are lower (often, much lower) production standards and energy is released into the environment in transportation to the United States. Although intended to produce the opposite effect, the proposed regulation would harm the environment.

0117-10

Banning fracking will not lead to increased imports or increased production outside of California. CalGEM should reject the oil industry's assertion that curbing oil production in California will lead to greater greenhouse gas emissions. Under the industry's theory, increased oil imports into California will offset the emissions from reduced in-state production and also add greater transportation-related emissions. This line of arguing has been thoroughly debunked by economists and rejected by federal and international courts. The theory that an equal volume of imported oil will "substitute" for the oil production decline in California is completely unsupported. An analysis specific to California oil production estimated that each barrel of oil left unproduced would result in a net decrease of 0.5 barrels of production globally, and the reduction would likely be greater when factoring in high carbon-intensity of California's oil fields and downstream effects. The effect would be greater still if factoring in a decrease in California's oil consumption decreases at the same time. Similarly, an analysis published in the prominent journal *Nature Climate Change* concluded that increased oil production would significantly increase global oil consumption as the result of greater supplies and lower oil prices. An analysis by experts at Columbia University and the Rhodium Group on the effects of lifting U.S. crude oil export restrictions shows that U.S. oil production affects global crude oil prices, which is only possible without perfect substitution. These studies demonstrate that crude oil operates in a global market, where increasing U.S. supply increases global demand and resulting greenhouse gas pollution.

Response Comments Discussing Imported Oil

NOT ACCEPTED. Prohibiting WST operations furthers CalGEM's statutory mandate under Public Resources Code section 3106, subdivision (d), to encourage wise development of California's oil and gas resources to best meet oil and gas needs in the state.

In response to the climate crisis, the executive and legislative branches set aggressive goals to achieve carbon neutrality no later than 2045 and transition to zero-emissions vehicles by 2035. In 2018, Executive Order B-55-18 established a statewide goal of achieving carbon neutrality as soon as possible and no later than 2045, and Senate Bill 100 (De León, Chapter 312, Statutes of 2018) set a goal of powering all retail electricity sold in California and state agency electricity needs with renewable and zero-carbon resources by 2045. Then in 2020, Executive Order N-79-20 set goals that all new passenger cars and trucks, as well as all drayage/cargo trucks and off-road vehicles and equipment, sold in California, will be zero-emission by 2035; and that all medium- and heavy-duty vehicles in the state will be zero-emission by 2045.

Moving aggressively towards carbon neutrality and zero-emissions vehicles will result in a dramatic reduction in the use of hydrocarbons, and as the state makes progress towards these goals, demand for oil and gas in California will eventually decline. In the context of these foreseeable substantial declines in California, prioritizing the phase out of WST production furthers CalGEM's mandate to encourage wise development of California's oil and gas resources. Given the tremendous public concern about WST operations, the inherent risks associated with WST operations, and the complex challenges of effectively regulating those risks, managing the decline of oil and gas production in the state in a manner that prioritizes elimination of WST production reflects a wise approach to the ongoing development of California's oil and gas resources. This policy is reflected in Executive Order N-79-20, which expressly calls for taking steps to phase out WST permitting by 2024. Because WST production tends to be relatively cost effective, without the WST ban it is possible that WST-facilitated production would be some of the last production occurring in the state when much of the state's other production is falling due to lack of demand.

Comments Stating the Rulemaking is not a Phase-Out

0130-1

Commenter notes that the Notice's duplicitous reference of a future rule given the fact that CalGEM has been operating under such a policy for over three years, having issued no such permits since February 2021.

0154-2, 0154-3

Under the current Rulemaking Notice, there would be no phase-out. The formal prohibition on new permits would be immediately effective and immediately continue the *de facto* ban that has existed since 2021. Most importantly, WST permit applications are not "still being processed" as CalGEM asserts. In fact, it has been more than three years since CalGEM last issued any permit for WST activities (February 2021). CalGEM has not issued a single WST permit since April 2021, when Governor Newsom directed CalGEM to "initiate regulatory action to end the issuance of new [WST] permits . . . by January 2024." Since the Governor's direction to CalGEM for a regulatory prohibition on WST, CalGEM has denied 109 WST permit applications, granted none, and failed to process others.

At the Governor's direction, and without completing the rulemaking process, CalGEM has effectively implemented a WST Ban since April 2021. The WST Ban is illegal. Indeed,

oil and gas industry members have filed lawsuits to challenge the WST Ban, and litigation is ongoing. The current rulemaking seeks to make “clear” and “explicit” the WST Ban—a ban that CalGEM has been implementing over the last three years. ISOR, 11 (“Explicit, categorical prohibition of WST is the type of clear regulatory action necessary to most effectively redress” public concerns over WST). Adopting the WST Ban formally, through regulation, would make the ban more transparent, but no less unlawful. That’s because the Ban is contrary to existing statutes and regulations, and CalGEM has no authority to issue the Ban.

0117-4

CalGEM states that it rejected an alternative version on the proposed regulation that would impose an “immediate moratorium” on well stimulation, “ending permitting and WST activity beginning on January 1, 2022.” Its stated reason for the rejection is because “an immediate moratorium on the use of previously approved WST permits would be overly burdensome to affected industry.” First, from the industry’s perspective, it is unclear what the difference would be between a halt beginning January 1, 2022, and a ban beginning on the effective date of these regulations. CalGEM has not approved a well stimulation permit since February 2021. Any permits approved before that time have since expired. Nor would a moratorium be unanticipated. Gov. Newsom announced in September 2020 that the state would stop approving fracking permits no later than 2024. In 2021, CalGEM also issued a discussion draft of the well stimulation announcing a phase out regulation. And CalGEM began denying individual permit applications in 2021, explaining its rejection in detail citing quantifiable risks associated with climate change and harms to human health and the environment. Thus, to the extent there would be any practical difference between a well stimulation moratorium that begins on January 1, 2022 and one that begins on the effective date of these regulations, there does not appear to be any discernable difference in burden on the industry, and CalGEM should adopt the alternative with the earlier implementation date.

Response to Comments Stating the Rulemaking is not a Phase-Out

NOT ACCEPTED. The rulemaking prohibiting new WST permitting has been phased in over a period of several years. On September 23, 2020, Governor Newsom issued an executive order (EO N-79-20, 2020) related to environmental protections, in which he expressed commitment to a broader statewide shift away from fossil fuel production and consumption. In April 2021, consistent with CalGEM’s updated statutory purposes, the Governor directed CalGEM to initiate a rulemaking process that would permanently phase out WST permits by 2024. CalGEM began a process of pre-

rulemaking public engagement in May 2021 and commenced formal rulemaking in February 2024.

Comments Stating the Rulemaking will be a Taking of Property

0096-1

Commenter opposes CalGEM's illegal promulgation of this regulation, which is not supported by the State Legislature and attempts to undermine and override the existing state statute which was voted into law by the State Legislature and signed by Governor Brown in 2013. I believe this is a take of mineral rights just as the setback regulation is an attempt to kill the oil industry in this state.

0174-1, 0185-3

Commenter strongly opposes the regulations because it would accelerate the demise of their property without compensation, which is still in the early stages of development and for which a lot of resources and hard work have been invested. A civil way to have proceeded in this charade promulgated under the auspices of climate change would have been to sunset the oil and gas business over a defined period of time, set a time to negotiate and payment of the amount of the taking, and provide for the orderly abandonment of the facilities. This would have been the civil way to accomplish the State's goals. See the Fifth Amendment to the US Constitution. Unjust taking without compensation is not right!

0025-1, 0026-1, 0128-3, 0129-3

Get ready to write a big check. Commenters are pretty sure this would be considered a take, so the state of California should gear up for a massive payout to companies and royalty owners to make them whole. The whole issue will need to be settled in the court system.

0162-3

The proposed Well Stimulation Phase-Out regulation will adversely affect hundreds of thousands of California's royalty/mineral owners. The property rights owned by these royalty/mineral owners are their private property. We firmly believe that the proposed regulation is in violation of the California Public Resources Code and is, therefore, illegal. If adopted, it will constitute a taking of private property under both the United States Constitution and the California Constitution.

Response to Comments Stating the Rulemaking will be a Taking of Property

NOT ACCEPTED. The prohibition of future permitting of WST may have some impact on the profitability of oil and gas production, like many other economic regulations that apply to the industry, but this rulemaking will not prohibit oil and gas production. This rulemaking will only impose an operational restriction on production aimed to protect life; property; public health and safety; and environmental quality, including mitigating greenhouse emissions associated with the development of hydrocarbon resources.

Comments Regarding Economic Impacts

0029-3

The net financial loss to California in general and to Kern County in particular, the total absence of any sensible rationale to eliminate hydraulic fracturing, the safe manner in which hydraulic fracturing has been practiced in California and Kern County for the past 60 years, the increase in worldwide greenhouse gas emissions and pollution, including methane and CO2 emissions, from more foreign imported oil and the lack of fresh groundwater in the areas where HF has been instituted in the past on the west side of Kern County, all point out how counterproductive and unneeded the newly proposed regulation is. The obvious result of the proposed regulation will be:

1. State government wants to stop oil production in California and replace it with high polluting and increased overall worldwide greenhouse gas emitting foreign oil production.
2. Transfer jobs and wealth to foreign producers with no replacement job opportunities for out of work California oil workers.
3. Continue to be the laughingstock of the rest of the United States and, indeed, the world, with no benefits to California.

0137-1, 0140-1, 0142-1, 0147-1, 0150-1, 0151-1, 0156-1, 0157-1, 0159-1, 0160-1, 0165-1, 0166-1, 0167-1, 0168-1, 0172-1, 0175-1, 0176-1

Commenters are writing to express strong opposition to the proposed regulation to phase out well stimulation in California. With the state's daily demand for oil and gas reaching 1.8 million barrels a day, such a regulation threatens to severely impact our local oil and gas production in favor of ever-increasing foreign imports.

Regulations like this one harm local oil and gas production, and the analysis of this regulation's impact needs to be taken in the aggregate. The cumulative effects of a ban on WST and cyclic steam production, combined with CalGEM's enormous permitting backlog, have resulted in a 43% reduction in in-state production since 2018.

As a result, 73% of California's unwavering daily demand for oil and gas must be imported via tanker to our ports.

CalGEM cannot gloss over economic and energy reality when it seeks to implement these rulemakings. I therefore urge CalGEM to reconsider the proposed regulation and instead focus on supporting sustainable and responsible domestic energy production. CalGEM needs to uplift the local energy producers it serves to ensure California's economic prosperity while also advancing towards a cleaner energy future.

0138-2

Commenter has worked in the petroleum industry for over ten years, and has seen first-hand the exponential increase in regulations, making it difficult for companies to keep their employees. The last thing Kern County needs is an increase in unemployment because of over-regulating this crucial industry.

0144-2

When combined with CalGEM's enormous permitting backlog, a ban on WST and cyclic steam production has resulted in a 43% reduction in in-state production since 2018. Meanwhile, CalGEM outwardly admits that the consequences of this rulemaking include the elimination of existing businesses and the elimination of jobs. All of this is considered a necessary evil in the name of climate change. The oil and gas industry in California provides high-paying jobs to a diverse group of hard-working Californians, including women, veterans, people of color, second-chancers, and those without a college degree. Over 50% of commenter's workforce is made up of women or people of color, and the average non-executive compensation is \$135,000 per year. This is an industry providing jobs and wages that allow families to not only survive but thrive in a state that is increasingly inaccessible and unaffordable for its residents. Glossing over the importance of economic prosperity and jobs provided by the oil and gas industry fails to acknowledge the reality for so many in the Golden State.

0150-3

California produces the environmentally cleanest oil and gas production in the world. We should continue to optimize California's oil and gas production to reduce the states debt load, help control energy poverty, and provide good paying jobs for our families.

0162-1

Commenter strongly opposes the proposed Well Stimulation Permitting Phase-Out regulations. Commenter advocates for and works to protect the interests of the

estimated 700,000 private citizen oil and gas royalty owners in California, and even more mineral owners. Many of these royalty/mineral owners are senior citizens that rely on their royalty income to supplement their social security and retirement income.

0055-3

The analysis appears to place more emphasis on the economic impacts on CalGEM operations rather than the nearly 1 million people living, working, and raising families in Kern County. The economic impact of reduced oil and gas operations is a cumulative impact on the Kern County General Fund, not a single event. The County's discretionary revenue provides quality of life services to our communities such as libraries, aging and adult services, animal control and adoption, and parks and recreation, to name only a few. Oil and gas properties contribute significantly to the County's discretionary revenue and comprised over \$16 billion of the County's assessment rolls in 2023 alone. The following is a list of projected fiscal losses to the County General fund based on Sacramento's climate policies. Although Kern County produces 80% of the oil and gas in California and 99% of the WST permits, we have also permitted and built over 18,000 MW (18 GW) of wind, solar and lithium battery storage to produce over 60% of the State's green power.

Economic Losses to Kern County General Fund:

Oil and Gas \$35 million/yr. (average loss compared to 2014 roll)

Solar Tax Exclusion \$20 million/yr. (over \$110 million total)

Williamson Act Subventions \$6.4 million/yr. (over \$90 million since 2009)

0128-2

The phase out will have a significant negative economic impact on Central Valley communities, including non-white, non-college educated populations that benefit from the high paying, high training jobs associated with WST activities. This is an area of the state that is already suffering from the lowest job growth and lowest wage growth in the state.

0128-4

Prohibiting WST reduces the state's GSP (the sum of all industrial value added) by \$2 billion annually at a time when the state is suffering from a significant deficit.

0129-2

Californians are already feeling the impact of increasing dependence on foreign oil and gas through the higher costs paid for gasoline. But the state's as well as the Country's failing energy policies will eventually ripple throughout nearly every aspect of daily life. CalGEM's rhetoric of protection under PRC sections 3106 and 3011 is

astounding and the idea that this would lead to savings for the state is ludicrous. There are significant economic impacts that CalGEM documents in the economic analysis, but they should have added "but we don't care" about the losses to the sector and the economy. CalGEM's WST permitting phase-out will severely damage Kern County's economy, can only lead to increasing the gross fiscal waste to the County and State and should be recognized as a serious threat to the future of California.

0131-2

The analysis also does not properly represent the Impact on Business; specifically on contractors and suppliers that work on leases that have WST. As a General Contractor myself working for oil producers, my business would see a reduction in workforce if WST would be eliminated and my business may not be sustainable to operate. We currently employ 150 full time employees and I wouldn't want them to lose their jobs to foreign oil.

0134-10

Results of the Standardized Regulatory Impact Assessment: Any regulation that either shuts down or has the potential for shutting down prudent operation of oil wells and oil fields is already having a huge impact on both the economics of the industry and the state. With 75%+ of oil needs being imported times the world market price times 365 days per year is the simple equation of the damage done to the State's and Nation's balance of payments. Add the cost of transportation and the unreliability factor of imports, the current state permitting and regulatory policies are killing the state economy. Then there is the federal prohibition of increasing oil production in Alaska. Bad governmental policy can equal bad outcomes for the citizens. Probably adding a much larger greenhouse gas contribution to the world's atmosphere. Our oil operator has already cut staff, reduced hours, and stopped any non-essential expenditures to attempt to maintain his business. If more regulations designed to kill the industry are planned, just tell us today so the final business plans can be made.

0134-12

Our operator is a single proprietor operating only our lease. After 3 years with no drilling allowed bills like AB 2716 and this rule are effectively business killers.

0154-7

In its rulemaking documents, CalGEM admits that the WST Ban will have substantial impacts on oil and gas operators, state and local governments, and the broader economy. CalGEM projects that "the proposed WST phase-out is estimated to result in 1,442 fewer oil wells being drilled over the period of 2024-2033." Notice, 7. Over the next

10 years, CalGEM estimates \$190 million (average per year) in foregone revenues “associated with reduced oil and gas production as a result of the inability to use WST.” SRIA, 10.

CalGEM also forecasts:

- Fiscal Impacts on State. Reduced state income taxes by \$53 million per year through 2032. SRIA, 12.
- Fiscal Impacts on Kern County. Loss to Kern County of \$20 million in property taxes per year. Notice, 8.
- California Economywide Impacts. An average annual loss of more than \$2 billion in gross state product over the next 10 years, and losses of hundreds of jobs annually. SRIA, 13.

In addition, the WST Ban will reduce California energy supplies, likely leading to higher energy costs for California consumers. In sum, while on the one hand, the WST Ban is unnecessary to protect the environment and human health, on the other hand, the economic and related impacts caused by the ban are severe.

0158-2

The state has announced a very large \$40-\$70 billion single-year budget deficit for 2024-25. It is utter insanity for the state government to continue its war on the oil and gas industry, which generates significant direct and indirect tax revenue, as well as a large amount of jobs and other associated economic activity for communities that have few other alternatives to support their local economies. These regulations will only make the budget problem far worse.

0158-4

Commenter has a direct interest in this regulation since they are a royalty owner, and will lose substantial income as a result of ending well stimulation. The State will also be harmed in that it collects taxes from commenter on that income, which is a detriment to the state and overall the loss of this tax revenue on oil and gas production and royalty income will increase the budget deficit for this year and in years to come. For this and the other reasons stated above, it is actually in the best interests of the state and its residents to withdraw this regulation. Survey after survey show that the general public supports oil and gas production and use by wide margins. Only a small but very vocal activist group opposes it, and they do not care about the consequences.

0184-2

Commenter is concerned with the loss of public revenue—including to schools and public safety—that would occur through reduction of energy production in the state, and the loss of many high-paying private sector jobs. Especially in light of budgetary shortfalls at the state, federal, and local levels, together with economic uncertainty, the proposal would have deleterious consequences for many communities and individuals in California. In the same way it makes economic and environmental sense to consume food produced locally, it makes environmental and economic sense to consume energy produced locally. State energy independence, as national energy independence, is an important goal.

0206-1

Commenter strongly objects to the proposed rulemaking. This rulemaking to phase out WST permitting is a clear example of emotion-based policy on behalf of the state. The negative impacts of WST permitting phase-out are many and quantifiable, while the benefits were qualitative and not backed by research, including the perceived health benefits to the phase-out of oil and gas.

0207-2

Our oil supply is already in decline. We've already seen 160 workers here in Kern County laid off in the last year. Commenter agrees there should be a managed phase out, where oil and gas workers are supported as we transition off of fossil fuels. But, the need for a just transition should not be a reason to then exploit Black and Brown and low income communities to continue drilling in their neighborhoods and let them be sacrificed.

0028-2

As this proposal will have the effect of reducing domestic oil and gas production, it will make the country more susceptible to high prices charged by oil exporting countries. Therefore this unfairly burdens those who are least able to afford fuel for transportation, heating, cooking, etc. The reports relied upon seem to make no mention of this impact.

0055-5

Commenter demands that the State consider the anxiety, fear, and epidemiologically significant public health implications its climate policies cause the residents of Kern County. The State's poorly planned and inequitable "just transition" is having very real consequences and tangible economic impacts on our community, even as we continue to be a leader in the clean energy movement. The future of our local job base, sense of community and quality of life, and even our schools are at stake here. Despite these high stakes, there is a concerted effort to subvert the authority of elected

officials in the California State Legislature and eliminate jobs and property tax revenue for the residents of Kern County.

0117-11

The SRIA actually overstates the costs. First, analyzing the fracking ban in isolation, SRIA estimates that the fracking regulation would result in about 300 fewer jobs over a ten-year period. The number pales in comparison to the number of jobs that could be created if the industry begins to plug and restore well sites for its 100,000 idle and active wells. By one estimate, such an undertaking would create more than 54,000 jobs. CalGEM should consider the substantial job creation from the decommissioning phase of California's oil and gas production.

Second, 300 fewer jobs is an overestimate resulting from an unrealistic baseline. There have been no fracking approvals since 2021. The proper baseline would be a reflection of the current status quo, under which CalGEM has not authorized any fracking.

Third, the SRIA's job figures and economic modeling is based on the assumption oil production will decline by 2.7% per year. However, the ongoing decline in California's oil and gas production is accelerating because California's oil and gas reservoirs are depleted, and the industry is at the tail end of its lifecycle. As noted by Purvis (2023), California oil production dropped 42% from 2014-2022 and more sharply since 2021. This drop is due to geology and economics, not due to policy. Were CalGEM to consider the ongoing collapse of California oil production, the modeled costs of the rule would be even lower, once again only strengthening the case for the proposed fracking ban.

Finally, we note that while CalGEM has not monetized the tremendous health, safety, environmental, and climate benefits of the rule, these benefits obviously outweigh any small costs to industry from the rule.

Response to Comments Regarding Economic Impacts

NOT ACCEPTED. This rulemaking will result in significant costs and benefits. CalGEM has determined that this rulemaking action is a major regulation and has completed a Standardized Regulatory Impact Assessment (SRIA) for this rulemaking, which has been provided to the Department of Finance (DOF) for review and comment. The SRIA, DOF's comments on the SRIA, and CalGEM's response to DOF's comments are attached to the Initial Statement of Reasons for this rulemaking action.

The SRIA found that the proposed regulation will have a significant impact on business-as-usual economic activity in the state's oil and gas sector, and this translates into net

losses for established business in and closely allied to WST activities in the sector. The proposed regulation will also have a net impact on the state's overall economy, reducing average annual real GSP relative to the baseline reference by about \$2 billion per year (0.04% of baseline GSP) over the period 2024-2033. The impact on the state's overall economy is overwhelmed by baseline aggregate growth, and the state economy and the sector itself will otherwise continue the robust average growth it has enjoyed for two generations. For these reasons, the Division has made the following determinations:

- The proposed regulation will affect the elimination of jobs within the State of California.
- The proposed regulation may affect the creation of new business or the elimination of existing businesses within the State of California.
- The proposed regulation may affect the contraction of businesses currently doing business in the State of California.
- The proposed regulation may affect the ability of businesses within California to compete with businesses in other states.
- The proposed regulation is unlikely to affect the competitive advantages or disadvantages for businesses doing business in the State of California. • The proposed regulation will likely affect the increase or decrease of investment in the State of California.
- The proposed regulation may affect incentives for innovation in products, materials, or processes.

CalGEM also determined that the proposed regulation will result in nonmonetary benefits such as protection of public health and safety, environmental safety, and transparency in government and business. Specifically, the benefits are as follows:

- Public health benefits from reduced pollution exposure
- Avoided worker injuries
- Reduced water use
- Reduction in damage to soil and water from WST related contaminants
- Reduced burden on low-income and disadvantaged communities
- Reduction in damage to wildlife habitat
- Reduction in the volume of high carbon intensity crude produced
- Reduction in impacts to disproportionately vulnerable populations
- Public health benefits of reduced anxiety and fear associated with public concern around WST

Any direct costs to operators of oil and gas wells and mineral owners would come in the form of lost profits. This foregone revenue represents the future oil and gas production that would have been derived from WST-facilitated production in the absence of the regulation. In total, the proposed WST phase-out is estimated to result in 1,442 fewer oil wells being drilled over the period of 2024-2033. The decline in production leads to associated declines in revenue, which are estimated at \$23,599,412 in the first year, and increasing every year thereafter as more and more wells go undrilled and unstimulated.

The specific impact on an individual operator will depend on whether that operator would have been likely to apply for and be permitted to use WST in their future operations and would include any decline in their production associated with decisions to forgo new wells or treatment of existing wells due to the prohibition on WST. Many in-state oil and gas firms have at least some wells with a history of WST in their operational portfolio, including the current top producing firms. Almost all WST application in California occurs at onshore wells in the San Joaquin Basin. Only a small portion of WST carried out in the state has occurred at offshore wells or in other parts of the state.

Over the past decade twelve different operators have completed WSTs across four counties. However, the vast majority of treatments have been carried out in Kern County and most at wells in one of three fields (Belridge North, Belridge South, or Lost Hills). While Kings, Orange, and Ventura Counties each have 1-3 wells that have received WST permits, Kern County has more than 2,200 of these wells between 2014 and 2021. In total, since late 2016, when CalGEM started issuing WST permits, 710 wells were treated. During the same time period, CalGEM denied 166 WST permit applications. WST induced production represented about 15-20% of total oil and gas production in California over the past 5 years.

For 2020, the most recent year with available data, CalGEM estimates that 12.1% of total oil and 16.6% of total gas in California came from wells that have received WST at any time in the past. Wells that have received WST pursuant to permits issued by CalGEM under SB 4 and the associated regulations (i.e. after 2015) accounted for only 2% of total state production in 2020. CalGEM experts and third-party assessors concur that these regional patterns would be likely to continue absent the proposed permitting phase out regulation.

The Department of Finance (DOF) generally concurred with CalGEM's SRIA for the proposed regulations and found that it meets the requirements for the SRIA but added one critique of the analysis as presented in the document. DOF's comments on the SRIA and CalGEM's response are summarized as follows:

While the SRIA includes a comprehensive discussion of the regulation's impact on Kern County property tax revenue, it must include a dollar estimate of the revenue impact. In this case, multiplying the quoted \$197 million figure for the county's property taxes by

the estimated 10 percent upper bound for the reduction in property value would produce an annual impact of about \$20 million.

CalGEM generally concurs with DOF's calculation. However, it is important to point out that this is a very conservative (i.e., high) estimate of the impact on tax revenue based on macroeconomic modeling. As noted, in the SRIA, property taxes in fiscal year 2018-19 from oil and gas facilities represented some \$197 million, 7.4% of all Kern County tax revenue. Regulations pertaining to the valuation of oil and gas properties allow for taxable amounts to be reassessed over time in response to "changes in the expectation of future production capabilities" (See Cal. Code Regs., tit. 18, § 468.) Thus, Kern County's tax revenues are influenced by changes in both the valuation of existing oil and gas operations and the establishment and valuation of new operations in the future. Macroeconomic modeling suggests that existing production assets in Kern County are likely to lose less than 10% of their current value, with a property tax revenue decline of less than 1% of total county tax revenue annually. Ten percent represents the upper bound of possible property tax impacts associated with oil and gas operations. This proposed regulation impacts the limited number of oil operators who use this technology. The dollar figure produced using 10% of annual revenue of \$19.7 million is therefore a high, conservative estimate, and the actual property tax impacts are likely to be substantially less.

With regards to comments on economic impacts to smaller operators and contractors, Oil and gas production operations generally are not among the types of business activities categorized as a "small business" under the statutory definition applicable to this rulemaking determination. (See Gov. Code, § 11342.610; Cal. Code Regs., tit. 1, § 4.) That said, in terms of oil and gas operators themselves, most of the WST-facilitated production in California is carried out by relatively large, economically robust firms. While some WST activity has been carried out by smaller, more marginal firms, such firms are not representative of the operator community that typically employs WST.

Firms that provide specialized WST services to oil and gas production operators must overcome hurdles of large capital expense and technical expertise that act as a barrier to any business with gross receipts and employee numbers low enough to meet the applicable statutory definition of "small business."

Some impacts to small businesses other than the regulated community of oil and gas operators or firms engaged in providing specific WST services may arise in spatial proximity to wells where stimulation would have otherwise occurred. These businesses may have no formal relation to oil and gas operations and are instead composed of the goods and service vendors (e.g., retail, restaurants) whose clientele happen to

include oil and gas industry workers. Relative to the baseline case of WST as it is presently permitted, these businesses may see reduced patronage if oil and gas firms engage in less robust local operations that call for fewer employees in the area. Additionally, small businesses in general may be disproportionately affected by changes in fuel and other energy product costs – though, as discussed in the SRIA, price effects stemming from the proposed regulation should be modest.

Comments Regarding Environmental Review

0130-5

The proposed rule is a project that requires analysis under the California Environmental Quality Act (CEQA). Exemptions do not apply when the rule has the effect of weakening environmental standards or could result in potentially significant effects. As CalGEM has previously conceded in the WST EIR, a reduction in domestic oil production in California will result in significant environmental effects by leading to increased importation of oil, which will result in a corresponding increase in greenhouse gas emissions because, among other things, the sources of the imported oil lack stringent environmental controls and mitigating measures. The importation of oil and gas into California can also involve additional emissions from transportation that require evaluation. WST activities are part of long-standing oilfield operations that have been the subject of extensive oversight and pollution control techniques, and CalGEM and its predecessor DOGGR have permitted and regulated underground injection wells pursuant to the state Underground Injection Control Program since at least 1982. There is no justification to avoid environmental review of the potential impacts resulting from the Proposed Rule.

0185-4

The state will soon realize (when they review the CEQA regulations) that eradicating California production, the cleanest produced oil in the world, would actually cause more global warming via the emissions caused by bringing the oil needed for society into the state by barge, and by the oil needed to backfill California production which is produced without the environmental protections we use in California oil and gas operations.

Response to Comments Regarding Environmental Review

NOT ACCEPTED. This Project, the phasing out of permits to conduct WST, would cease issuance of WST permits for oil and gas wells operating in California, and result in the cessation of WST in California once the term of existing WST permits expire. The

proposed regulation would end a practice that has the potential to cause significant and unavoidable negative impacts to natural resources and the environment as identified in the SB 4 EIR. Therefore, there is no possibility that the activity may have a significant effect on the environment that is subject to CEQA.

CalGEM has proposed these regulations to avoid the potential adverse environmental impacts that were identified in the SB 4 EIR and the CCST Independent report. The SB 4 EIR was a statewide programmatic analysis of WST and determined that WST has the potential to cause significant and unavoidable impacts to aesthetics, air quality, biological resources (terrestrial environment), culture resources, geology, soils and mineral resources, greenhouse gas emissions, land use and planning, risk of upset/public and worker safety, and transportation and traffic.

Based on the evidence in the record for the proposed Project, including the SB 4 FEIR, the benefits of phasing out WST in California support that the rulemaking would assure the maintenance, restoration, or enhancement, or protection of natural resources and the environment throughout the State. The rulemaking would avoid significant environmental impacts to the environmental factors mentioned above, including air quality and biological resources. The rulemaking would implement the Supervisor's authority, and be consistent with the Governor's longstanding policies and directives, to reduce greenhouse gas emissions. The rulemaking would not require construction activities, nor would it relax standards allowing for environmental degradation. Rather, the rulemaking would avoid future environmental degradation.

This rulemaking is therefore exempt from CEQA under Categorical Exemption 7 (Actions taken by Regulatory Agencies for Protection of Natural Resources) and 8 (Actions taken by Regulatory Agencies for Protection of the Environment). While it is possible that the phasing out of WST will result in a short period of increased oil imports to the state, it is true that hydrocarbons not extracted in California due to a phase out of WST activities will remain underground in California rather than being converted to greenhouse gas emissions affecting the global climate.

Comments Questioning Authority for Rulemaking

0055-1

Commenter objects on the grounds that only the California State Legislature has the power to pass a law banning fossil fuels production or eliminating any essential part of production such as WST. The California Supreme Court decision (*Chevron U.S.A. v Monterey County* S271869) provides a history of the regulations CalGEM is responsible

for implementing and ends with the following: "...the current version of the statute directs the supervisor to administer the state's regulations in a way that serves the dual purpose of ensuring the state has adequate oil and gas resources, while protecting the environment." The regulation as written does not support the state having adequate oil and gas resources, it ignores regulatory alternatives, and uses unsound reasoning that will seriously compromise the ability of the State to achieve the climate goals it has adopted. Only the California State Legislature can legally act on this issue, not the Department of Conservation or even the Governor.

0054-1, 0089-4, 0096-2

CalGEM does not have the authority to end the legal practice of well stimulation. Commenter opposes CalGEM's illegal promulgation of this regulation, which is not supported by the State Legislature and attempts to undermine and override the existing state statute which was voted into law by the State legislature and signed by Governor Brown in 2013. CalGEM cites PRC sections 3011 and 3016 [sic] as the authority to unilaterally decide that the Division will not approve well stimulation permits, even knowing that the extensive scientific studies conducted by the State contradict this decision and demonstrate that well stimulation does not pose harm to human health or the environment. As clearly stated on your website, "Senate Bill (SB) 4 (Pavley, 2013) established stringent public health, safety and environmental criteria that have been widely described as among the strongest safeguards in the nation." Furthermore, Lawrence Livermore National Laboratory's more recent third-party scientific review of pending well stimulation permits, which was contracted at the request of Governor Newsom in 2021, found "that the permitting process met statutory and regulatory requirements."

0128-6

The prohibition of WST is a blatant attempt to further reduce oil and natural gas exploration and production in California. This should not be hidden in a rulemaking action but should be the domain of the State Legislature. The 15-20% of production that is WST induced is much needed production of oil and gas that is used only in California.

0130-2

The proposed rule is inconsistent with, and preempted by, California's Statutory Law and Regulations. The Legislature has expressly authorized WST and requires CalGEM to review and permit well stimulation activities determined to meet applicable technical requirements. The proposed rule is inconsistent with these mandates. The Proposed Rule does the opposite. In an era of already-high gas prices, the Proposed Rule—like CalGEM's other anti-oil measures—will only increase the burden on California

residents. By purporting to overrule the Legislature's statutory determination to allow WST, the proposed rule constitutes unlawful executive overreach. Public Resources Code section 3106 requires the supervisor to permit the owners and operators of wells to utilize all methods and practices known to the industry for the purpose of increasing the ultimate recovery of underground hydrocarbons and administer the laws so as to encourage the wise development of oil and gas resources. In passing SB 4, the Legislature declared that well stimulation treatments are critical to boosting oil and gas production and established a framework by which CalGEM must regulate WST and review WST permits based on specified technical criteria – not ban it outright. CalGEM and the Governor have previously stated that this was a decision for the Legislature to make, as a matter of public policy, and previously rejected a ban because it was legally infeasible because it required the repeal of SB 4. Public Resources Code section 3011 expressly refers to the reduction of emissions “associated with the development of hydrocarbon and geothermal resources,” not prohibiting the development itself. Similarly Public Resources Code section 3106 refers to damage associated with development requiring CalGEM to supervise drilling, operation, and maintenance, not to prohibit them. In an era of already-high gas prices, the Proposed Rule—like CalGEM's other anti-oil measures—will only increase the burden on California residents. The proposed rule disregards the careful weight of issues by the Legislature, which already determined that banning WST was not in the state's best interest. As the proposed rule goes beyond the authority granted to CalGEM by the Legislature, it constitutes unlawful executive overreach, violates the separation of powers doctrine of the California constitution and is preempted by overriding statutory law.

0139-2, 0143-1, 0150-2, 0169-1, 0180-1

The proposed regulation to phase out well stimulation in California is immoral and nonsensical. There is no evidence for this at all. None. It won't make a dent in our carbon footprint. Here's what it will do...drive up costs and put thousands of workers out of good paying jobs, including union jobs. Moreover, it's not legal. As outlined in SB4, the existing regulatory framework already comprehensively governs and regulates well stimulation practices in the state.

In fact, CalGEM's own documentation for this regulatory proposal discusses that well stimulation in California is highly regulated. Further, these draft regulations are surprising when considered in the context of Governor Newsom's statements that CalGEM does not have the authority to end the legal practice of well stimulation. CalGEM's illegal promulgation of this regulation attempts to undermine and override the existing state statute which was voted into law by the State legislature and signed by Governor Brown in 2013. Instead of pursuing further regulation, CalGEM should focus on uplifting

local oil and gas producers to meet California's energy needs, instead of advancing regulations that eliminate local production and increase our reliance on foreign imports.

0154-5

CalGEM claims that the proposed regulation “is not inconsistent or incompatible with existing state regulations as it is an integrated complement to the SB 4 regulations rather than a competing rule.” Notice, 4. CalGEM is wrong.

The WST Ban is contrary to state law. CalGEM explains that “The proposed regulatory change would establish, as a matter of general policy, that the Supervisor would no longer entertain WST permit applications.” Standardized Regulatory Impact Assessment (“SRIA”), at 18. But state law expressly requires that the State Oil and Gas Supervisor “shall review the well stimulation treatment permit application,” and, in considering whether to approve, “shall evaluate the quantifiable risk of the well stimulation treatment.” § 3160(d)(3)(A), (C). CalGEM’s proposed policy that the Supervisor would “no longer entertain WST permit applications” is directly contrary to law.

CalGEM’s proposed WST Ban in Section 1780(d) is also contrary to existing WST regulations that CalGEM previously adopted, as required by SB 4. Pub. Res. Code § 3160(b)(1)(A). In 2014, CalGEM adopted detailed and comprehensive WST regulations based on SB 4’s legislative mandate. See 14 CCR §§ 1780-1789. The purpose and effect of these regulations is to “govern[] well stimulation treatments” (*id.*, § 1780), ensuring safety and integrity of WST activities, including protection of health and the environment. *Id.* §§ 1780-1789. As CalGEM itself acknowledges, the existing WST regulations are “stringen[t] and complex[.]” ISOR, 12.

CalGEM’s proposed WST Ban—by adding a one-sentence prohibition (Section 1780(d)) to a comprehensive permitting system—would make the regulations contradictory and internally inconsistent and would make every other section of the regulations moot.

0154-8

Commenter strongly urges CalGEM to terminate its WST Ban rulemaking because CalGEM has no authority to adopt the ban, the ban is contrary to state law, and the ban is not supported by evidence that WST activities harm human health, safety or the environment. In short, the regulatory ban is illegal and unsupported. Instead of pursuing a regulatory ban, CalGEM should be reviewing WST permit applications—and approving permit applications when technical requirements are met—as mandated by the Legislature under SB 4.

0158-1

There is no statutory authority under which CalGEM can establish and enforce these regulations - even the governor has stated that the executive branch does not have the authority. This WST regulation, along with the withholding and slow-walking of all kinds of permits for oil and gas operations, are entirely outside the law. These actions potentially open the state to legal liability, which as a taxpaying resident commenter does not believe is proper for a state agency to do.

0154-4

The Initial Statement of Reasons published with the Rulemaking Notice makes clear that CalGEM's purpose is to prohibit WST, not just to restrict, regulate or phase it out. CalGEM has authority to regulate WST, but not to prohibit it.

By law, CalGEM "shall . . . permit the owners or operators of the wells to utilize all methods and practices known to the oil industry for the purpose of increasing the ultimate recovery of underground hydrocarbons." Pub. Res. Code § 3106(b). Well stimulation activities, including "injection of air, gas, water, or other fluids into the productive strata, . . . or the creating of enlarged or new channels for the underground movement of hydrocarbons into production wells" are expressly recognized as practices known to enhance recovery of oil. *Id.*

The Legislature specifically endorsed well stimulation treatments through the passage of SB 4 in 2013, codified in Public Resources Code §§ 3150 to 3161. These sections require regulation and permitting of WST activities, not prohibition. Pub. Res. Code, § 3160(a) (requiring an independent scientific study on WST); *id.*, sub. (b) (requiring CalGEM to adopt regulations "specific" to WST treatments to "ensure integrity of wells, well casings, and the geologic and hydrologic isolation of the oil and gas formation during and following well stimulation treatments, and full disclosure of the composition and disposition of well stimulation fluids"); *id.*, sub. (c) (requiring CalGEM to enter into agreements with various agencies to delineate "authority, responsibility, and notification and reporting requirements associated with well stimulation treatments"); *id.*, sub. (d) (establishing a WST permitting process, defining required information, and requiring CalGEM to review WST permit applications and consider the quantifiable risk of the proposed WST).

In adopting SB 4, the Legislature authorized—and indeed required—CalGEM to adopt regulations to "ensure integrity of wells, well casings, and the geologic and hydrologic isolation of the oil and gas formation *during and following well stimulation treatments*,

and full disclosure of the composition and disposition of well stimulation fluids." Pub. Res. Code § 3160(b)(1)(A) (emphasis added). Section 3160 expressly contemplates that well stimulation treatments will be permitted, subject to regulation that ensures protection of the environment (geologic and hydrologic isolation) and disclosure requirements. The Legislature did not authorize CalGEM to prohibit WST, which would be contrary to the detailed permitting and regulatory system set forth in Public Resources Code §§ 3150 to 3161. There would have been no reason for such a system had the Legislature intended for CalGEM to ban WST.

The WST Ban also contradicts CalGEM's own prior admission that It has no authority to prohibit hydraulic fracturing or other well stimulation treatments. See Analysis of Oil and Gas Well Stimulation Treatments in California, Final Environmental Impact Report, dated July 1, 2015 ("SB 4 EIR"), Global Response GR-5: "DOGGR lacks authority to prohibit well stimulation treatments." As CalGEM stated in the SB 4 EIR: "[CalGEM] lacks the authority as an agency in the executive department to impose a statewide ban of hydraulic fracturing because the Legislature has not delegated this substantive authority to DOGGR." CalGEM's initial conclusion on this point was correct. An administrative agency's authority is limited to the powers granted to it by statute. Agencies cannot pursue matters that are outside the scope of the authorizing statute, nor can they impose new procedures or penalties that the statute does not provide. Absent legislative direction to prohibit WST which the California Legislature has never provided—CalGEM may not do so through administrative action.

In its Initial Statement of Reasons, CalGEM claims SB 4 itself "provided additional authority" for CalGEM's regulatory ban of WST. ISOR, 6. This statement is incorrect. More accurately, SB 4 requires regulations that apply "during and following well stimulation treatments," Pub. Res. Code § 3160(b)(1)(A), which expressly contemplates permitting—not prohibition—of WST. CalGEM also cites its general mandate to protect the environment under section 3106(a) and its general regulatory authority under 3013 but, unlike SB 4, neither of these sections specifically relates to WST and therefore, SB 4—which is consistent with those general mandates and applies specifically to WST—takes precedence. ISOR, 6.

CalGEM also cites Public Resources Code section 3011, adopted in 2019, which provides that the purposes of state oil and gas law include "reduction and mitigation of greenhouse gas emissions associated with the development of hydrocarbon and geothermal resources *in a manner that meets the energy needs of the state.*" But even before Public Resources Code section 3011 came into effect, the purposes of the oil and gas law already included protecting public health and environmental quality (of

which greenhouse gas emissions are part). Public Resources Code section 3011 did not expand CalGEM's authority over WST; it is simply a prologue to part of the Public Resources Code that does not involve SB 4. By its own terms, Public Resources Code section 3011 only references reduction and mitigation of greenhouse gas emissions—not complete cessation—and only in a manner that meets the state's energy needs. California is importing foreign-produced oil and gas (without mitigation of greenhouse gas emissions) to meet state's energy needs, rather than producing oil and gas locally through WST operations under the state's cap and trade regime. Furthermore, CalGEM has cited no data or study showing that WST activity, in and of itself, causes greenhouse gas emissions or climate change. And indeed, CalGEM's comprehensive environmental analysis of WST concluded that banning WST will *increase*—not *reduce*—climate change impacts because climate change is global in nature, and the increased need for imported oil and gas would increase overall greenhouse gas emissions. See SB 4 EIR at C.2-84.

In sum, the Public Resources Code, as amended by SB 4, expressly authorizes well stimulation treatments, subject to compliance with rigorous statutory and regulatory requirements adopted thereunder. No statute in the Public Resource Code grants CalGEM the authority to prohibit WST. Accordingly, any regulation prohibiting well stimulation treatments outright would be illegal as contrary to the express mandates of the Public Resources Code and outside CalGEM's authority to adopt.

Response to Comments Questioning Authority for Rulemaking

NOT ACCEPTED. Senate Bill 4 (Pavley, Ch. 313, Stats. 2013) (SB 4), authorized CalGEM to regulate WST and codified a wide range of new standards and requirements applicable to WST operations, including the requirement for a discretionary permit from CalGEM prior to conducting WST (Pub. Resources Code, § 3160, subd. (d)). Legislative history of SB 4 makes clear that it was intended to further regulate an existing practice. According to the author, this "legislation is motivated by the public's right to know about fracking. DOGGR's draft fracking regulations represent a step in the right direction, but don't go far enough." (Senate Committee on Natural Resources and Water, Analysis (April 9, 2013), at p. 3.) Moreover, nothing in the legislative history suggests that SB 4 was intended to curtail the Supervisor's obligation to protect public health and the environment in the course of regulating oil and gas development.

Recent legislation has only augmented that authority. On October 12, 2019, Governor Newsom signed into law Assembly Bill 1057 (Limón, 2019) (AB 1057). AB 1057 added Public Resources Code section 3011, which expanded CalGEM's express statutory duties to include the protection of public health and safety and environmental quality, including reduction and mitigation of greenhouse gas emissions associated with the development of hydrocarbon resources.

On September 23, 2020, Governor Newsom issued an executive order (EO N-79-20, 2020) related to environmental protections, in which he expressed commitment to a broader statewide shift away from fossil fuel production and consumption. In April 2021, consistent with CalGEM's updated statutory purposes, the Governor directed CalGEM to initiate a rulemaking process that would permanently phase out WST permits by 2024.

While SB 4 authorized the current regulations governing WSTs, it is important to view today's regulatory proposal in the full context of the authority that the Public Resources Code grants the Supervisor in regulating all oil and gas development. This is particularly important given that, as explained above, SB 4 provided additional authority to the Supervisor. Specifically, the statute expressly provides that CalGEM "may approve [a WST] permit if the application is complete." (Pub. Resources Code, § 3160(d)(3)(A), *emphasis added*.)

The Public Resources Code sets forth a policy of encouraging development of oil and gas resources, but in doing so, it tasks the Supervisor with supervising such operations "so as to prevent, as far as possible, damage to life, health, property, and natural resources[.]" (Pub. Resources Code § 3106(a) (*emphasis added*)). Undertaking this discretionary balance necessarily implicates the Supervisor's expertise in the field of oil and gas development. (*Id.* at subd. (d) ("To best meet oil and gas needs in this state, the supervisor shall administer this division so as to encourage the wise development of oil and gas resources")) (*emphasis added*)). The Public Resources Code authorizes the Supervisor to "adopt rules and regulations, which may be necessary to carry out the purposes of this division" and provides that the statutes governing oil and gas development are to be "liberally construed to meet its purposes[.]" (*Id.* at § 3013.)

As noted above, those purposes now expressly include "protecting public health and safety and environmental quality, including reduction and mitigation of greenhouse gas emissions associated with the development of hydrocarbon and geothermal resources in a manner that meets the energy needs of the state." (*Id.* at § 3011.)

These statutory authorities were conferred by the Legislature and are not limited by public statements by any elected official opining on their scope.

Comments Requesting Other Restrictions and Environmental Efforts

0015-2, 0031-2, 0032-2, 0033-2, 0034-2, 0035-2, 0050-1, 0053-2, 0091-7, 0098-1, 0120-155, 0124-3, 0125-2, 0126-2, 0195-2, 0202-2, 0211-2

Include an amendment to include other well stimulation methods such as cyclic steaming. A ban on conventional drilling should quickly follow to more fully protect public and environmental health and safety, and reduce greenhouse gas emissions.

0016-4

Commenter would love to see California continue to be a real leader in climate-friendly policy by stopping WST wells now. Declining to issue new permits is a good first step, and I encourage you to quickly phase out all existing WST wells.

0017-2

Commenter is advocating for a full moratorium on any new oil and gas permits for several years and only permitting alternative non-fossil fuel development.

0081-2

Please put the focus on tax breaks for green energy as well as nuclear. There is no time to waste.

0018-1, 0019-1, 0020-1, 0022-1, 0023-1, 0038-3, 0115-2, 0120-115, 0120-128, 0122-1, 0187-3, 0188-3, 0191-2, 0204-2, 0218-2

Commenters fully support the ceasing of issuance of oil and gas well permits in California. End all extraction in California.

0021-1

Due to the existential risk of crossing tipping points in climate change, pollution crisis, and wildlife habitat loss crisis, all largely due to fossil fuel extraction, fossil fuels shall be phased out entirely no later than 2050 in order to meet the net-zero greenhouse gas emissions of the Paris Climate Accord and satisfy the sustainable development goals of UN Agenda 2030. As a result, Commenter strongly supports the ban on fossil fuel extraction by cessation of issuance of permits for oil and gas wells.

0040-1,

The age of fossil fuels is over. Now we must take aggressive action to reduce fossil fuel emission 50% by 2030. This will involve stopping all new fossil fuel projects.

0043-1

Commenter strongly supports the plan to end fracking in California and also asks for the end to Lithium mining which employs a similar practice of extraction methods and stands at risk of destroying our precious aquifers-particularly in the desert i.e. the Salton Sea.

0044-1, 0091-4, 0102-1, 0120-191, 0120-308, 0121-2, 0123-3

CalGEM must extend the phase out to Steam-Based EOR. The current proposed regulation does not phase out Enhanced Oil Recovery (EOR) techniques like cyclic steam injection, steam flooding and water flooding. However, steam-based EOR is as damaging to public health, environmental quality, and climate change as WSTs. To achieve the goals of the proposed rule and meet its statutory mandate CalGEM must extend the phase out to steam-based EOR. Beyond the immediate hazards of WSTs and EORs to human and environmental health, these processes are dangerous because they exacerbate climate change. Fracking produces greenhouse gas worse for the climate than coal. It is absolutely critical at this point that we take every possible action to mitigate the climate crisis, and therefore the banning of WSTs and EORs in California must be done.

0047-1, 0120-272

California has asserted its environmental and climate change leadership over the years. It has successfully encouraged other states to do the same and has influenced federal policy. Now California must put its money where its mouth is and ban oil and gas production. Such a ban would have a tremendous health and environmental benefit and would pave the way for other state and federal regulatory action. It would be an incredibly significant step towards addressing climate change.

0052-1

There are three compelling reasons to stop all oil and gas extraction, including using steam. 1. Studies show a serious increased risk of heart and lung disease, perinatal problems including stillbirth, and cognitive impairment near oil and gas drill sites. 2. The use of fossil fuels is accelerating climate change. 3. There are excellent, safer, and cleaner sources of fuel for power, heating, and transportation.

0053-1, 0205-2

Please include all well stimulation methods, not just narrowly tailored method of acid type fracking.

0058-1

The proposed phase out should be extended to apply to steam injection and steam flooding because they pose many of the same threats as fracking and acidizing and other public health, safety and environmental problems but are not sufficiently regulated to avoid adverse health, safety, and environmental risks. Steam generation for enhanced oil recovery uses tremendous amounts of energy which contributes to climate change thereby harming health, safety, and the environment and should also be phased out beginning in 2024. Steam injection and flooding are far more pervasive than fracking in California and are increasing and therefore represent significant risk. California must end permits for oil well steaming operations in order to protect the health, safety and environment of Californians.

0065-2

Senate Bill 4 sets an important framework for addressing the most likely types of unregulated well stimulation treatments in California. This legislation was intended to curtail the Supervisor's obligation to protect public health and the environment while regulating oil and gas development. SB4 was signed over a decade ago and is outdated in today's current need to fully transition and phase out fossil fuels. To that end, we ask that the proposed regulation be modified to include all forms of well stimulation, including not just fracking and acid well stimulation but also steam injection, water flooding, cyclic steam injection and other well stimulation techniques.

0120-68

Fracking is destroying our environment. We need to prioritize renewable green energy over capitalism and greedy oil companies.

0120-220, 0120-228

Preserving our water and transitioning to cleaner renewable energy sources needs to be our collective priority. That may require truly creative thinking, but it is time. So many innovative approaches exist. Let's be leaders instead of clinging to an infrastructure that is destructive of our health now and our oceans and ecosystems long term. Let's invest in a transition to clean energy in a major way, helping businesses, government institutions and individuals make the needed shifts.

0205-4

We need to reduce imports as well and deal with that. That's not CalGEM's arena but it's a problem that we need to face and we need to have California adopt an overall managed transition away from fossil fuels and have a fully decarbonized state of California as soon as possible, with the current target around 2045.

0087-2, 0184-3

In order to provide the power needed for all California, please consider replacing fossil production with nuclear power plants. The technologies have advanced to make this mode of power production safe, clean, and plentiful, providing a healthy environment for all our people and all our wilderness and wildlife as well.

0092-2, 0196-3

Commenters strongly urge CalGEM to take additional steps to protect public health and safety by limiting other enhanced oil recovery processes and not approving any new permits for fossil fuel extraction. As CalGEM's own scientific expert panel concluded – there is no safe distance from oil and gas extraction.

0102-6, 0102-7, 0214-1

The proposed regulation must be expanded to phase out steam-based oil and gas recovery. Like WSTs, Steam-based EOR operations unlock hard to reach hydrocarbons, thereby extending the lifespan and production capabilities of old, inefficient, and hazardous facilities. Steam-based EOR amplifies the danger of conventional oil recovery, while also presenting unique threats such as higher emissions, increased air pollution, toxic wastewater, and seismic events. Longer operations necessarily increase the chance of contaminated water supplies, degraded air quality, public exposure to hazards, and contribute to a worsening climate. While much of the impacts regarding WSTs and Steam-based EOR are the same, Steam-based EOR is far more common in California, thus presenting a greater risk for negative outcomes.

Steam-based EOR threatens public health and safety, natural resources and environmental quality. Steam-based EOR employs dangerous methods like cyclic steam injection, steam flooding, and hot water flooding to extend the productive lifespan of oil wells that would otherwise be unable to produce at economically viable rates. By prolonging and intensifying the operational capabilities of oil and gas facilities, the well-known negative effects of conventional recovery are exacerbated by Steam-based EOR, while also presenting unique threats. The impacts to biological resources from Steam-based EOR are similar compared to WSTs and conventional recovery. However Steam-based EOR also produces increase oil seeps that further endanger wildlife. CalGEM must extend the phase out to include Steam-base EOR.

0102-8

Steam injection EOR impedes California from achieving climate goals. CalGEM has a duty to pursue the “reduction and mitigation of greenhouse gas emissions associated with the development of hydrocarbon resources.” Public Resources Code § 3011. Steam-based EOR fails this directive in several ways. EOR extends operations of the oldest, most inefficient wells and facilities by allowing recovery of hard-to-reach hydrocarbons which are eventually processed and combusted, resulting in emissions of greenhouse gases. Not only are the wells subject to EOR old, but “California oil by its very nature is a ‘heavy’ hydrocarbon, that emits more pollutants when refined into gasoline.” The amount of carbon emitted per barrel recovered and processed is higher for Steam-based EOR than most other forms of energy recovery. This metric demonstrates that, from a climate perspective, EOR is one of the worst forms of fossil fuel extraction. In no uncertain terms, the State will not meet its climate goals by permitting new sources of oil recovery, let alone some of the most inefficient, carbon intensive methods like Steam-based EOR. In order to fulfill its obligation to reduce and mitigate greenhouse gas emissions, Public Resources Code section 3011, as well as assist the State in attaining its climate goals as enumerated in Senate Bill No. 32, CalGEM must begin the phase out of Steam-based EOR.

0115-6, 0213-3

This rulemaking is one important step of many needed on the path to a healthy, just, and climate-safe future. Enhanced oil recovery techniques, including high pressure cyclic steam injection, result in many of the same health and safety, environmental, and climate harms as fracking. Indeed, CalGEM’s advisory panel identified a “causal relationship” between proximity to “oil and gas development” in general, not just fracking specifically, and adverse health impacts. Given these impacts, CalGEM must also continue to phase out oil and gas extraction. We view this fracking rulemaking as one of many subsequent efforts to create the safe and sustainable California that CalGEM envisions. CalGEM is California’s leading agency when it comes to regulating oil and gas extraction, and it must continue to prioritize our health and climate when regulating oil and gas.

0120-16

Besides fracking, all the oil pumps that are less than 100 feet from a residential or public facility should be stopped and removed.

0120-40, 0120-42, 0120-96, 0120-132, 0120-134, 0120-148, 0120-175, 0120-273, 0120-279, 0300-2

We must keep all climate-changing fossil fuel in the ground to protect the future for our children and grandchildren. We must achieve 100% clean, renewable energy like solar and wind in electrical generation and transportation by 2030. Let's leave a good and beautiful earth for our kids.

0120-111, 0120-298

Commenter wants their families to live in a clean and stable world. Ban fracking and oil and gas expansion.

0120-235, 0226-2, 0227-2

Stop all the insanity. Implement minimum income. And use CSSD. 2x Condorcet Cloneproof voting to meet UDHR 21.3

0120-245

Stop the Delta Conveyance Tunnel. Stop the Resnick water grab. Install sufficient sewage treatment facilities with recycled water in all communities and feedlots.

0120-286, 0248-2

We have a moral responsibility to our children and our grandchildren to *not* leave them a planet in *worse* condition than we received it that is devastated by climate pollution. The science is clear that this means: no more fossil fuel subsidies or expansion or investment in fossil fuel infrastructure, winding down existing fossil fuel production and consumption as quickly as possible, and rapidly expanding public transit and clean carbon-free energy production and natural carbon sinks such as forests.

0134-3

What are the issues causing concerns about steaming to extract heavy oil? Energy requirements could be minimized if the compression of stranded gas was encouraged specifically for fueling the steam boilers. Control of air emission from steam boilers has advanced greatly in recent years. Is best available technology used on the steaming boilers? Air quality problems in Bakersfield and the San Joaquin valley are greatly influenced by global air emissions carried by the wind. Blaming the steam boilers is just an excuse to pin the blame on oil operations.

0134-13

Our lease has a flange that was used to connect produced natural gas to the SoCalGas distribution pipeline. Our gas is of a slightly higher BTU content than pipeline gas. Sempra will not allow a connection except at a price that can be classified totally

unreasonable. Worried about methane and air emissions, make reasonable provisions for the connection of stranded gas.

0189-2

Statewide, CalGEM has the responsibility not only to phase out these particular fracking practices but ultimately the part of the transition away from fossil fuels in the state of California and particularly the state's own municipal dependency – county dependency – on the revenues from oil and gas drilling, which of course, replicate other inequities in the society.

0190-2

While the proposed final rule makes important headway, threats to public health and the environment and our climate will remain if the phaseout is not extended to steam based enhanced oil recovery such as cyclic steam and steam injection; they pose the same if not greater threats to public health and environment as do well stimulation treatments. All forms of enhanced oil recovery extend the operational lifespan, production capabilities of the oldest, most carbon intensive and dangerous oil well facilities in the state. In doing so, both forms of enhanced oil recovery amplify the well documented hazards associated with conventional drilling but also present additional dangers of oil seeps, water contamination and more intense air pollution and greenhouse gas emissions.

These methods target crude and pure hydrocarbons that require further processing before being marketable. Enhanced oil recovery has some of the lowest energy invested/energy recovered ratio of all methods of fossil fuel extraction. Speaking plainly, we will not achieve our goal of reducing greenhouse gas emissions to 40 percent of 1990 levels by 2030 if we permit additional recovery of some of the most carbon intensive and degrading forms of fossil fuel extraction known to our state.

Given that steam based enhancement recovery is far more prevalent, there's objectively a greater finding variance to phase out this form of extraction. Moreover, the negative effects of enhanced oil recovery disproportionately burden disadvantaged minority groups that already face cumulative health social and economic inequities.

0191-4

Kern County is the poster child for the impacts of oil and gas extraction on already burdened communities. The public health and environmental benefits of further limiting regulations and permits are clearly evident. Protecting our most vulnerable

communities should be the deciding factor for the rules. Let's take this important step to phase out oil and gas production all together.

0192-2, 0198-2

Extend the phase out to steam injection because that uses a huge quantity of water and water is our most precious valuable resource as time goes on. Even oil companies are suing other oil companies because steam injection is affecting their production. Let's not waste our precious water and pollute and make our water tables toxic.

0194-2

The public health panel found three things with a high level of certainty: one, concentrations of health damaging air pollutants are more concentrated near oil and gas production sites; two, there is a causal relationship between close geographic proximity to oil and gas development and adverse respiratory and perinatal outcomes, three, these conclusions apply to all California oil and gas production methods including WST operations even though some of the studies relied upon were conducted outside of California. This illustrates that the work of protecting Californians from the harmful effects of oil and gas production is far from over. Commenters encourage diligence with regard to inspections, monitoring and enforcement regarding wells in front line communities along with future rule making aimed at continuing the necessary phase-out of all oil and gas production while being mindful of the need for oil decline.

0197-2, 0201-3

CalGEM laid out an excellent factual and legal case in its supporting documents for taking this step. We look forward to CalGEM applying the same logic to other dangerous drilling practices in the future. There is no reason to limit CalGEM's well-articulated reasoning to well stimulation treatment alone.

0203-1

We are concerned that the fossil fuel industry finds a way around this important effort by transporting via pipeline methane gas that is fracked in Oklahoma, Texas, Colorado, and Utah. So while California may not continue fracking here, we are still supporting fracking in other states by allowing these pipelines to transport fracked methane gas to enter our state via interstate commerce. So we'd like to see the State stop allowing fracked gas from crossing our border into California. It is then stored in places like Aliso Canyon and Playa del Rey, where the storage of this fracked gas harms and has harmed nearby residences, schools, churches, and the Ballona wetlands. So besides well stimulation and fracking, we ask that you consider making recommendations as to how we stop supporting fracked gas from emerging California and being used by our

residents and businesses. We must stop using methane gas. The California EPA secretary stated last week that methane gas has 25 times the impact of CO₂ towards climate change.

0207-1

Commenter commends CalGEM on the rulemaking but asks it to go further. When CalGEM denied fracking permits on the basis of public health as well as exacerbating the climate emergency it shows that CalGEM has the full authority to not only deny fracking permits but any and all oil and gas permits because they all affect public health as shown by your own state commissioned public health panel.

0209-2, 0215-2

The regulation does not address all well stimulation methods, specifically steam injection, which only perpetuates the ongoing pollution and climate issues impacting our state. There are currently over 50,000 sites where injection wells are used, putting thousands of Californians at risk of contamination and pollution. So this ban is only one step in a larger effort to remove from California, all fossil fuels for good, as soon as possible for the health of our communities and our environmental ecosystems.

0210-2

Commenter lives near Aliso Canyon, the Southern California Gas Company natural gas reservoir, the largest reservoir in the West, which experienced a large methane emission explosion in 2015. We need to close Aliso Canyon which is very detrimental to our health.

0214-2

WST and steam injection produce waste and heavy metals and toxins that are injected into underground aquifers. While these injections are supposed to be confined, there is evidence that faulty well casings abandoned by their natural fissures can all serve as conduits for toxic waste to infiltrate productive supplies of ground water. WST and steam based EOR are also terrible for the climate. Methane and diesel are burned to create heat and run generators and then further energies is needed to purify the hydrocarbons that are recovered. If the agency truly wishes to protect public health and achieve our climate goals, CalGEM should initiate a phase-out of steam based EOR. Commenter recognizes that this will have a large impact on the state economy and suggests a five- to seven-year phase out period that gives planned renewables time to come online.

0215-3, 0217-2

The ban also fails to address the over 100,000 state regulated wells already in operation, leaving thousands of Californians at risk of contamination and pollution and endangers our precious water resources. Fracking and oil extraction use about 1 billion gallons of fresh water every year and pollutes our fresh water due to fossil fuel companies routinely injection oil waste water directly into state aquifers. Commenter urges the state to pursue a full ban on all extraction to protect our climate and public health.

0216-1

Commenter recently learned about the Carbon TerraVault 1 plan and it looks like they want to inject CO2 where they are going to be banned from injecting water from drilling. Commenter just can't believe that this doesn't have the same implications including surface expressions like the one in the Elk Hills Oil Field. That is how the entire area will behave, it's the same stratigraphic beds that trap oil are also responsible for the aquifers; this is going to affect the water table.

0219-3,

It's well known that all forms of oil extraction, including but not limited to, other advanced oil recovery techniques, results in the same health and safety, environmental and climate harms as fracking. It's also worth highlighting that CalGEM denied fracking permits for years ahead of this rulemaking citing their mission to protect health and safety of Californians. This exact same precedent is needed now more than ever for all oil extraction, starting with other enhanced oil recovery techniques. It is not only allowable as signified by CalGEM's prior denials but absolutely imperative in order to adequately uphold CalGEM's mission. It is full, sound logic and common sense public health policy.

0220-1, 0230-2

Commenter has a young family who live very near the Inglewood Oil Field. This is an urgent situation; we need to address it as quickly as we can. Thank you for your rules on fracking and I'm against all forms of enhanced recovery. They are all dangerous.

0222-4, 0223-2, 0258-1

CalGEM has to take its mission to protect our health seriously and act on other positive forms of extraction in the future – the steam injection, the “enhanced oil recovery”; our communities really don't have any time for this poison, which affects us for generations. Let's talk about moral obligations that this agency has to the people of California. That's 5 million people who live only one mile away from the oil and gas extraction site, that generations of people in the same household in the same zip code who are exposed to toxins and then develop horrible cancers. Let's talk about the moral

obligations that we have to communities that are already overburdened with so many forms of pollution that also deal with fracking. Why do you keep letting them poison our water?

0234-2, 0298-2

We need to transition into renewable and sustainable energy that will help our marginalized communities instead of harming them, please I urge you to end any fracking and fossil fuel extraction. Its past time to save our planet.

0286-1

California is set to lead the country in its Green Energy initiatives. Continued pumping and fracking goes in the wrong direction to the future!

0120-301

We need to reverse the damage we have done to the earth and plant more trees, carpool.

Response to Comments Requesting Other Restrictions and Environmental Efforts

NOT ACCEPTED. None of the suggested additional prohibitions or undertakings are within the scope of the present rulemaking, which is focused on the regulation of WST. It is not the purpose of the rulemaking to end oil and gas production in California. Establishing a new regulatory regime to phase out other production operations, including cyclic steaming, is outside the scope of this rulemaking action. Other environmental initiatives and undertakings suggested are also outside the scope of this rulemaking action.

Comments Requesting Report on Public Health Impacts

0115-5, 0187-2, 0188-1, 0194-3, 0219-5

To help inform public comment on CalGEM's rulemaking efforts, we call for the release of the full public health expert advisory committee report as a resource to better understand the public health risks of oil and gas production in California. These findings are relevant to this proposed prohibition of WST permitting because the rulemaking requires a comprehensive assessment of public health benefits associated with limiting proximity of sensitive receptors to oil and gas production in California, and the expert advisory committee's findings indicate "a causal relationship between close geographic proximity to oil and gas development and adverse respiratory and perinatal outcomes." While a summary of the full public health expert advisory report

was made public, and is cited in the Initial Statement of Reasons (p. 8), we call on CalGEM to release the full report so that all residents who live, work, study, play, or do business near an oil and gas production site are informed of the risks that extraction poses to their community health.

Response to Comments Requesting Report on Public Health Impacts

To better understand the public health risks of oil and gas production in California, and to help inform CalGEM's rulemaking efforts, a scientific advisory panel was assembled in October 2020. The panel reviewed available evidence and concluded "with a high level of certainty" that:

- *Concentrations of health-damaging air pollutants are more concentrated near oil and gas production sites. (Shonkoff et al 2021, pg. 11.)*
- *There is a causal relationship between close geographic proximity to oil and gas development and adverse respiratory and perinatal outcomes. (Shonkoff et al 2021, pg. 4.)*
- *These conclusions apply to all California oil and gas production methods, including WST operations, even though some of the studies relied upon were conducted outside of California. (Shonkoff et al 2021, pg. 2.)*

These findings were based on a review of available studies examining health impacts associated with both conventional and unconventional oil and gas production and as part of larger ongoing efforts to comprehensively assess public health benefits associated with limiting proximity of sensitive receptors to oil and gas production in California. The findings do not pertain specifically to WST activities, but they are relevant to the proposed prohibition on WST permitting because the prohibition is estimated to reduce total oil and gas production levels.

The independent scientific advisory panel is yet to publish a more comprehensive report.

Comments Referencing Documents

0059-2

Commenter directs attention to a compendium of research on fracking available at <https://psr.org/resources/fracking-compendium-8/>.

0117-1

Commenters submitted a volume of documents on a thumb drive for incorporation into the record.

Response to Comments Referencing Documents

The referenced documents have been printed and are included in the record as part of the public comment.