



Senator Scott Wiener, 11th Senate District & Senator Monique Limón, 19th Senate District

Senate Bill 467 – End Fracking and Dangerous Drilling

SUMMARY

Senate Bill 467 will halt hydraulic fracturing (fracking), acid well stimulation treatments, and high-pressure cyclic steaming by Jan. 1, 2023, low-pressure cyclic steaming by Jan. 1, 2027, and water and steam flooding starting January 1, 2035. Further, SB 467 will restrict all new or modified permits for oil and gas production within 2,500 feet of any residences, schools, health care facilities or long-term care institutions such as dormitories or prisons by January 1, 2022. These production and extraction methods pose significant risks to the environment and public health, particularly when done within 2,500 feet of human activity. Lastly, the bill directs CalGEM to incentivize the hiring of former oil and gas workers for well remediation jobs.

BACKGROUND

When an oil or gas well is drilled, conventional extraction methods are utilized in a stage called primary production. These processes are often unable to fully access all recoverable resources, in part due to the low quality and heavy weight of California's oil reserves. To enhance oil and gas extraction, additional, more intensive methods are employed, including hydraulic fracturing, acid well stimulation treatments, and cyclic steam operations.

Hydraulic fracturing, also known as fracking, is a process in which a blended liquid (typically including water, sand, or other materials known as proppants) is injected at high pressures into a well, in order to fracture the reservoir. These fractures then allow for oil or gas to flow more freely, increasing the yield from that well. When the pressure is

released, those proppants hold open the fractures, allowing for continued extraction.

Acid well stimulation treatments can be divided into two forms: acid matrix stimulation treatments and acid fracturing treatments. The former pumps acid into a well at low pressures that do not fracture the geologic formation, but rather dissolve the sediments and solids, increasing the ease with which oil and gas can flow. Acid fracturing treatments involve using a similar acid at high pressures in order to fracture the formation for enhanced extraction.

Cyclic steam operations often function in three phases: First, steam is injected into the well, often times at a pressure high enough to fracture the geologic formation. Next, the well is closed, and the steam soaks the reservoir, increasing the heat and viscosity of the oil. Lastly, the well is opened again, and this begins production, allowing the heated oil to be pumped out of the fractures and up through the well. This process is repeated until the well is no longer productive.

Steam and water flooding are similar practices to cyclic steaming, though rather than alternating injections and soaking, steam or water is injected continuously, creating a "steam zone" that helps reduce viscosity and displaces the oil through the well.

These methods of extraction are used throughout the state, though some can be found directly near residentially populated areas. Nearly 7.5 million Californians live within one mile of an oil or gas well, while over 2 million live within one mile of an operational well – a majority of whom are low-income, and people of color. Over 350,000 students attend school within a mile

of an active well, while over 120,000 students attend school within half a mile of an active well.

PROBLEM

Enhancing oil and gas production using hydraulic fracturing, acid well stimulation treatments, and cyclic-steam operations poses significant environmental and public health risks, as well as potential damage to the State's economy.

While the effects range widely depending on method, the impacts of these practices can include: an increase in earthquakes and seismicity, air pollution, surface and ground water contamination, spillage of oil or contaminated wastewater, and increased occurrences of sinkholes. Further, while extracting oil out of the ground often leads to the burning of said oil, thus releasing carbon dioxide and compounding the impacts of climate change, these production methods can further induce climate change in other ways as well. For instance, methane is often leaked or burned off during production processes, particularly fracking. Methane, in the first two decades after its release, is 84 times more potent in our atmosphere than carbon dioxide and thus absorbs far more heat during its lifespan. Spikes of atmospheric methane levels have recently been reported, and although originally hypothesized to be sourced from agriculture, new evidence now points to this spike being caused by an increase in fracking practices.

Oil extraction not only harms the environment, but can cause extremely harmful health effects, or worsen ongoing health complications. The majority of oil and gas operations take place in areas already impacted by poor air quality, meaning the pollution compounds this issue and can result in dangerously high levels of fine particulates, nitrogen oxides, and volatile organic compounds including the BTEX

chemicals: benzene, toluene, ethylbenzene, and xylene. These pollutants have well established links to cancer, heart disease, endocrine disruption, adverse reproductive outcomes, and increased emergency room visits, hospitalizations, and premature death.

These often life-threatening health complications are far worse for those communities directly near oil and gas production. Studies in both California and in other states show a correlation between the distance a community resides near a well and increased rates of birth defects, premature birth, and low birth weights. Further, asthma rates increase closer to an active well, as do hospitalizations for heart failure, fatigue, stress and other serious health complications. The communities exposed to the chemicals, pollution and other detriments of oil and gas production are largely low-income, communities of color.

Lastly, these extraction methods also utilize an enormous amount of water, which is an increasingly precious resource. In 2014 in California, with hydraulic fracturing alone, oil producers used nearly 70 million gallons of water. This water was desperately needed during the extreme drought in 2015 that cost roughly \$2.7 billion and killed 20,000 agriculture-related jobs. Crucially, the water that does get used for enhanced oil extraction is likely to never re-enter the water cycle due to the levels of contamination these practices cause. Water prices will only continue to rise due to competition from oil producers as our water supply becomes scarcer. The effects of this competition are already on display in Colorado, where farmers were outbid by water haulers seeking to supply water to fracking operations. California must have a secure and sustainable water supply in the future, and must not allow excessive water consumption due to oil and gas extraction.

SOLUTION

SB 467 would prohibit the issuance or renewal of a permit to conduct hydraulic fracturing, acid well stimulation treatment, and high-pressure cyclic steam operations by Jan. 1, 2022, with all permits for the listed activities expiring by Jan. 1, 2023. The bill similarly prohibits low-pressure cyclic steam permits by Jan. 1, 2025, with all permits for low-pressure cyclic steam expiring by Jan. 1, 2027. Lastly, the bill prohibits permits for steam and water flooding by January 1, 2033, with all permits expiring by Jan. 1, 2035.

Further, the bill will require a health protection zone of 2,500 feet be established to include residential areas, education facilities, healthcare, and long-term care facilities. No new or modified permits for oil and gas production will be granted if the well is within that 2,500 foot buffer.

Lastly, the bill directs the California Geologic Energy Management Division (CalGEM) to identify oil and gas workers who have lost their jobs and offer incentives to well remediation contractors to prioritize the hiring of these identified former workers.

SUPPORT

- **The Center on Race, Poverty, & the Environment (Sponsor)**
- **Voices in Solidarity Against Oil in Neighborhoods (Sponsor)**
- Active San Gabriel Valley
- All Rise Alameda
- Alliance of Californians for Community Empowerment (ACCE) Action
- Alliance of Nurses for Healthy Environments
- American Academy of Pediatrics, California
- American College of Obstetrics & Gynecology District IX
- Asian Americans Advancing Justice - California
- Asian Pacific Environmental Network
- Azul
- Black Women for Wellness
- Breast Cancer Action
- Breast Cancer Prevention Partners
- Building the Base Face to Face
- California Alliance for Retired Americans
- California Environmental Justice Alliance
- California Interfaith Power & Light
- California League of Conservation Voters
- California Nurses Association
- Castro Valley Democratic Club
- Center for Biological Diversity
- Center for Climate Change and Health
- Center for Community Action & Environmental Justice
- Center for Environmental Health
- Central California Asthma Collaborative
- Central California Environmental Justice Network
- Central Coast Alliance United for a Sustainable Economy
- Central Valley Air Quality Coalition
- Citizens' Climate Lobby – Ventura
- Citizens' Climate Lobby – West LA Chapter
- City of Culver City
- City of Santa Barbara
- Clean Water Action
- Climate Action Campaign – Public Health Advisory Council
- Climate Action Santa Monica
- Climate First: Replacing Oil & Gas
- Climate Health Now
- Climate Psychiatry Alliance

- Climate Tzedek Committee of Congregation Netivot Shalom
- Climate 911
- Coalition for a California Green New Deal
- Coalition for Clean Air
- Comite Progreso de Lamont
- Committee for a Better Arvin
- Committee for a Better Shafter
- Communities for a Better Environment
- Community Environmental Council
- Conejo Climate Coalition
- Consumer Attorneys of California
- Consumer Watchdog
- Contra Costa MoveOn
- County of Santa Barbara
- Courage California
- Dayenu: A Jewish Call to Climate Action
- Delano Guardians
- Democrats of Rossmoor Walnut Creek
- Drug Policy Alliance
- Earthjustice
- El Cerrito Progressives
- Environment California
- Environmental Defense Center
- Environmental Working Group
- Faith in the Valley - Kern
- Feminists in Action Los Angeles
- In the Field 661
- Food & Water Watch
- Fossil Free California
- FracTracker Alliance
- Friends Committee on Legislation of California
- Glendale Environmental Coalition
- Greenfield Walking Group
- Greenpeace USA
- Heal the Bay
- Holman United Methodist Church
- Indi Squared
- Indivisible California Green Team
- Indivisible CA 3
- Indivisible CA 29
- Indivisible CA 33
- Indivisible CA 37
- Indivisible CA 39
- Indivisible CA 43
- Indivisible CA 52: Defending Our Future
- Indivisible Cloverdale
- Indivisible East Bay
- Indivisible Livermore
- Indivisible Los Gatos
- Indivisible Marin
- Indivisible Media City Burbank
- Indivisible Normal Height
- Indivisible North Oakland Resistance
- Indivisible North San Diego County
- Indivisible of Sherman Oaks
- Indivisible Orange County 46
- Indivisible Orange County 48
- Indivisible Orchard City
- Indivisible Sacramento
- Indivisible San Bernadino
- Indivisible: San Diego Central
- Indivisible San Jose
- Indivisible Sausalito
- Indivisible San Fernando Valley
- Indivisible San Francisco
- Indivisible San Francisco Peninsula & CA 14
- Indivisible Sebastopol
- Indivisible Sonoma County
- Indivisible South Bay LA
- Indivisible Stanislaus
- Indivisible Suffragists
- Indivisible Tehama
- Indivisible Vallejo-Benicia
- Indivisible Ventura
- Indivisible Windsor
- Indivisible Yolo
- Indivisible 30: Keep Sherman Accountable
- Indivisible 36

- Indivisible 41
- Interfaith Climate Action Network of Contra Costa County
- Latino Coalition for a Healthy California
- Landwatch Monterey County
- Leadership Counsel for Justice and Accountability
- Leap Lab
- Live From the Frontlines
- Los Padres ForestWatch
- Mi Familia Vota
- Mill Valley Community Action Network
- Mothers Out Front
- NARAL Pro-Choice California
- National Parks Conservation Association
- Natural Resources Defense Council
- NextGen California
- Normal Heights Indivisible
- Northern California Recycling Association
- Nothing Rhymes with Orange
- Orinda Progressive Action Alliance
- Our Revolution Long Beach
- Pacoima Beautiful
- Physicians for a National Health Program
- Physicians for Social Responsibility – Los Angeles
- Physicians for Social Responsibility – San Francisco Bay Area
- Plastic Pollution Coalition
- PODER (People Organizing to Demand Environmental & Economic Rights)
- Progressive Democrats of Benicia
- Protect Monterey County
- Redeemer Community Partnership
- Religious Activism Center of Reform Judaism
- RiseUp
- Rootskeeper
- San Diego Pediatricians for Clean Air
- San Francisco Baykeeper
- San Francisco Marin Medical Society
- Santa Barbara County Action Network
- Santa Barbara Standing Rock Coalition
- Santa Barbara Women’s Political Committee
- Save Our Shores
- SCOPE
- Seventh Generation Advisors
- Sierra Club California
- Silicon Valley Youth Climate Action
- Social Eco Education
- Stand.earth
- STAND-LA
- Starr King Unitarian University Chuch - Hayward
- Sunflower Alliance
- Sunrise Movement Bay Area
- Sunrise Movement Kern
- Sunrise Movement LA
- Sunrise Movement Sacramento
- Surfrider Foundation
- Temple Beth El Jewish Community Center
- The Center for Oceanic Awareness, Research, and Education
- The Climate Center
- The Resistance Northridge
- The Resistance Sacramento/Elk Grove
- The 5 Gyres Institute
- UC Green New Deal Coalition
- UPSTREAM
- UPTA-CWA Local 9119
- Venice Resistance
- Voices for Progress
- Wellstone Democratic Club
- Western Center on Law and Poverty
- Women’s Alliance Los Angeles

- 350 Bay Area Action
- 350 Conejo/San Fernando Valley
- 350 Humbolt: Grass Roots Climate Action
- 350 Sacramento
- 350 San Diego
- 350 Santa Barbara
- 350 Silicon Valley
- 350 SoCal Climate Action
- 350 South Bay Los Angeles
- 350 Ventura County Climate Hub
- 1000 Grandmothers for Future Generations

FOR MORE INFORMATION

Tate Hanna

Email: tate.hanna@sen.ca.gov

Phone: (916) 651-4011