



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 the issuance or renewal of permits for hydraulic fracturing (fracking), acid well stimulation treatments, cyclic steaming, and water and steam flooding starting January 1, 2022. 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.

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, cyclic-steam operations, or steam and water flooding for the extraction or production of oil and gas beginning January 1, 2022. It would also prohibit new or repeated use of these activities, except as conducted with a permit lawfully issued before January 1, 2022. Beginning on January 1, 2027 the bill would prohibit all use of hydraulic fracturing, acid well stimulation treatments, cyclic-steam operations and water and steam flooding to protect the health of our environment and communities.

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

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- **The Center on Race, Poverty, & the Environment (Sponsor)**
 - **Voices in Solidarity Against Oil in Neighborhoods (Sponsor)**
 - Asian Pacific Environmental Network
 - Azul
 - Black Women for Wellness
 - Breast Cancer Prevention Partners
 - California Environmental Justice Alliance
 - California Interfaith Power & Light
 - California League of Conservation Voters
 - California Nurses Association
 - Center for Biological Diversity
 - Center for Environmental Health
 - Central California Asthma Collaborative
 - Central California Environmental Justice Network
 - Central Valley Air Quality Coalition
 - Citizens' Climate Lobby – Ventura
 - Citizens' Climate Lobby – West LA Chapter
 - Climate First: Replacing Oil & Gas
 - Climate Health Now
 - Coalition for Clean Air
 - Communities for a Better Environment
 - Conejo Climate Coalition
 - Environment California
 - Environmental Defense Center
 - Environmental Working Group
 - Faith in the Valley
 - Field 661
 - Food & Water Watch
 - Fossil Free California
 - FracTracker Alliance
 - Glendale Environmental Coalition
 - Greenpeace USA
 - Heal the Bay
 - Holman United Methodist Church
 - Indivisible California Green Team
 - Indivisible Ventura
 - Leadership Counsel for Justice and Accountability
 - Leap Lab
 - Live From the Frontlines
 - Los Padres ForestWatch
 - Mi Familia Vota
 - Mothers Out Front
 - National Parks Conservation Association
 - Natural Resources Defense Council
 - NextGen California
 - Normal Heights Indivisible
 - Northern California Recycling Association
 - Pacoima Beautiful

- Physicians for Social Responsibility
– Los Angeles
- Plastic Pollution Coalition
- Redeemer Community Partnership
- Rootskeeper
- Santa Barbara County Action
Network
- Save Our Shores
- SCOPE
- Seventh Generation Advisors
- Sierra Club California
- Social Eco Education
- Stand.earth
- STAND-LA
- Sunflower Alliance
- Sunrise Movement Kern
- Sunrise Movement LA
- Surfrider Foundation
- The 5 Gyres Institute
- The Center for Oceanic Awareness,
Research, and Education
- The Climate Center
- UPSTREAM
- 350 Bay Area Action
- 350 Conejo/San Fernando Valley
- 350 San Diego
- SoCal 350 Climate Action
- 350 South Bay Los Angeles
- 350 Ventura County Climate Hub

FOR MORE INFORMATION

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