CalGEM Key Terms Glossary

A quick reference guide to key terms and frequently used acronyms in CalGEM's oil and gas oversight work.

General Industry Terms

California Environmental Quality Act, The (CEQA)

A California statute establishing a statewide policy of environmental protection requiring state and local agencies within California to follow a protocol of analysis and public disclosure of environmental impacts of proposed projects and adopt all feasible measures to mitigate those impacts to prevent significant, avoidable environmental damage.

California's Public Resources Code (PRC)

A compilation of most state environmental laws relating to natural resources, the conservation, utilization, and supervision thereof, along with mines and mining, oil and gas, and forestry.

Casing

Pipe placed in an oil or gas well to (1) prevent the wall of the hole from caving in, (2) to prevent movement of fluids from one geologic formation to another and (3) provide a means of maintaining control of formation fluids and pressure as the well is drilled.

Rig

The machine used to drill, workover, or plug and abandon a wellbore.

Wellhead

The surface termination of a wellbore that incorporates facilities for installing casing hangers, production tubing, and surface flow-control facilities.

District

CalGEM district where the well or facility is located. CalGEM has three district offices managing operational issues across district geographical boundaries.

Field

The underground oil and/or gas field where the well or facility is geographically located.

Field capacity

The total gas storage capacity, including base and working gas capacity, of an underground gas storage facility, in cubic feet.

Hydraulic Fracturing

Another term for fracking, or hydrofracturing, hydraulic fracturing is a well-stimulation technique used commonly in low-permeability rocks like tight sandstone, shale, and some coal beds to increase oil and/or gas flow to a well from petroleum-bearing rock formations. A similar technique is used to create improved permeability in underground geothermal reservoirs.

Notice of Intention to Drill (NOI)

The form (OGG105-11/93) an owner or operator must file with CalGEM and obtain approval for before the drilling of a well may commence. The Notice of Intention to Drill must be filed and submitted to CalGEM.

Operator

"Operator" means a person who, by virtue of ownership, or under the authority of a lease or any other agreement, has the right to drill, operate, maintain, or control a well or production facility

Annual Idle Well Fee Inventory
Includes all wells that met the definition of idle well in the prior calendar year. This inventory is used for the calculation of idle well fees.

Carbon Capture and Storage (CCS)
A technology involving the capture, transport, and long-term storage of carbon dioxide, usually in geological reservoirs deep underground that would otherwise be released to the atmosphere.

Permit (Notice) Type
Identifies the kind of the permit requested or approved: for example, new drill (bore a hole in the earth), rework (restore production), abandon (temporarily or permanently cease production), re-abandon, sidetrack (drill around the original planned path of the well) and deepen.

Plug and Abandonment Order
Plug and Abandonment Order issued by CalGEM to an operator requiring plugging and abandonment at the operator's expense

Well Specific Terms

Active Observation Well
A well being used for the sole purpose of gathering data, such as pressure or temperature, in a reservoir being currently produced or injected by the operator.

Abandoned Well (Synonymous with deserted well)
Wells that no longer produce oil or gas and for which, CalGEM has ordered the operator to plug and abandon the well, but the operator has not complied. After an order to plug and abandoned a well is issued and not complied with, CalGEM performs a financial review to see if there is a viable operator with the financial resources to plug and abandon it. If there is not, CalGEM declares the well "orphan."

Capped Well
Wells that are no longer being used but might be needed in the future can be sealed with a cap that covers the top of the well casing to prevent unauthorized access and contamination of the well. Sometimes 'capped' is used inaccurately to refer to a properly plugged well.

Critical Well
A critical well is defined by regulation as a well within 100 feet of (1) any dedicated public street, highway, or nearest rail of an operating railway that is in general use; any navigable body of water or watercourse perennially covered by water; any public recreational facility such as a golf course, amusement park, picnic ground, campground, or any other area of periodic high-density population; or any officially recognized wildlife preserve; or (2) withing 300 feet of any building intended for human occupancy that is not necessary to the operation of the well; or any airport runway.

Deserted Well (synonymous with abandoned well)
Deserted wells are wells that have not been maintained in compliance with CalGEM's regulations and are determined to be deserted as demonstrated

through a final plug and abandonment order. Deserted wells have not yet been definitively determined to be orphan because a determination of financial resources held by legally responsible current or prior operators has not yet been completed. If the operator does not plug and abandon the wells in accordance with the order, CalGEM has the authority to plug and abandon deserted wells— and has limited authority to recover costs from a solvent responsible operator that is identified. If there are no solvent responsible operators, CalGEM will generally refer to the wells as orphan.

Idle Well

Any well that for a period of 24 consecutive months has not either produced oil or natural gas, produced water to be used in production stimulation, or been used for enhanced oil recovery, reservoir pressure management, or injection.

Idle Start Date

This is the date when a well meets the definition of idle well. It is the first day of the month *following* the 24th month of having not either produced or injected.

Example: If the last month of reported production on a well is January 2009, then its Idle Start Date is February 1, 2011.

Idle Well Management Plans (IWMP) Inventory

Includes all wells that met the definition of idle well on January 1 of the current calendar year. This inventory is used to establish the number of wells that must be eliminated by an operator in the current year if they elect to submit Idle Well Management Plans in lieu of pay an annual fee.

Long-Term Idle Well (LTIW)

Any well that has been an idle well for eight or more years. (Pub. Resources Code, § 3008, subd. (e).)

Orphan Well (synonymous with idle-deserted well)

These wells have been determined to be deserted as demonstrated through a final plugging and abandonment order, consistent with Public Resources Code section 3237, and have been determined by CalGEM to have no legally responsible current or prior operator with sufficient financial resources to fully cover the costs of plugging and abandonment, as described in Public Resources Code section 3237, subdivision (c). These wells fit the statutory definition of "idle-deserted" and may also fit the definition of "hazardous," as presented in Public Resources Code section 3251.

Potentially Deserted Wells

Wells that have not yet been determined to be "deserted," but for which other evidence suggests the wells likely have no responsible operator.

Plugged and Abandoned

Plugging and abandonment involves permanently sealing the well with a cement plug to isolate the hydrocarbon-bearing formation from water sources and prevent leakage to the surface.

Repaired Well

A sealed well that has experienced leaks but has been restored to a standard in compliance with applicable laws, regulations, and other requirements.

CalGEM Programs, Projects, and Initiatives

Geologic Energy Management Division (CalGEM)

The Division within the Department of Conservation that is responsible for safeguarding public health and the environment while working to reach state climate objectives.

Underground Gas Storage (UGS)
In California, natural gas serves as an energy resource for several purposes including electrical power generation, industrial use, residential use, and commercial use. To maintain an adequate supply of natural gas to these markets, Underground Gas Storage (UGS) reservoirs store natural gas. The Underground Gas Storage program within CalGEM mainly regulates subsurface activities, including UGS storage wells, and requires risk management activities and emergency response plans.

Underground Injection Control, The (UIC) Program
CalGEM has received primacy from the United States Environmental Protection Agency to administer federal and state requirements for the safe injection of fluids underground associated with oil and gas production. Under the program, CalGEM regulates the permitting, drilling, inspecting, testing, and sealing of these wells.

Well Stimulation Treatment (WST)
WST refers to processes performed on oil and gas wells to increase production. The various types of WST enhance the permeability of the geologic formation containing oil and gas.

Orphan Well State Abandonment Program

CalGEM's effort to prioritize and conduct state abandonments to permanently plug and seal orphan wells across California that may pose a risk to communities and the environment.

Methane Task Force (MTF)
A joint effort led by the California Geologic Energy Management Division (CalGEM), California Natural Resources Agency,California Air Resources Board (CARB), and California Environmental Protection Agency, seeking to identify and respond to methane leaks from oil infrastructures near communities, as well as address the outsized impact methane has on climate change.

CalGEM Online Databases

WellSTAR
CalGEM's database of record, the Well Statewide Tracking and Reporting System is used by operators and the Department to track data related to wells and facilities and is accessible to the public

WellFinder
The Well Finder application is an integral component of WellSTAR. It is a well-search tool that displays maps and other information about oil and gas wells and their associated facilities throughout California

WellSTAR Data Dashboard
An interactive visualization of California oil and gas information. The dashboard improves data accessibility and quick determination of key performances indicators (KPI) for the user. The dashboard enables greater transparency of oil and gas production. Transparency is a key CalGEM objective.

Other Agencies

Department of Conservation (DOC)

California Air Resources Board (CARB)
The Board charged with protecting the public from the harmful effects of air pollution and developing programs and actions to fight climate change.

California Environmental Protection Agency (CalEPA)
The agency that develops, implements, and enforces environmental laws that regulate air, water and soil quality, pesticide use and waste recycling and reduction.

California Natural Resources Agency (CNRA)
The agency mandated to restore, protect and manage the state's natural, historical and cultural resources for current and future generations using creative approaches and solutions based on science, collaboration and respect for all the communities and interests involved.

California State Water Resources Control Board (SWRCB)
Sets statewide water quality standards, issues statewide general permits, conducts statewide surface and groundwater monitoring and assessment, and issues orders for cleaning up contaminated sites

Pipeline and Hazardous Materials Safety Administration, (PHMSA)
The U.S. Department of Transportation agency that develops and enforces regulations for the safe, reliable, and environmentally sound operation of the nation's 2.6-million-mile pipeline transportation system and the nearly 1 million daily shipments of hazardous materials by land, sea, and air.

United States Environmental Protection Agency (US EPA)

Funding Sources

The Hazardous and Idle-Deserted Well Abatement Fund (HIDWAF)
Funded by operator Idle well fees, expenditures from this fund are used to plug and abandon wells to mitigate a hazardous or potentially hazardous condition.

Oil, Gas, and Geothermal Administrative Fund, The (OGGA)
Funded by operator assessment fees, expenditures from this fund are used to plug and abandon wells at no cost to the public.

General Fund
As part of the 2022-23 State Budget, CalGEM was allocated $100 million from the General Fund over two fiscal years ($50 million in 2022-23 and $50 million in 2023-24) in order to plug orphan wells.

Federal Orphan Well Grant Program
The 2021 federal Infrastructure Investment and Jobs Act (IIJA) includes $4.7 billion nationwide over a ten-year period for well plugging, remediation, and restoration—to be administer by the Department of Interior's Orphan Well Program Office. California has been notified of eligibility to receive $165.8 million in the first two phases of the program, with additional funding to be allocated in later phases. In August 2022, the US Department of the Interior (DOI) awarded California the maximum initial grant eligibility amount of $25 million. DOI has not yet indicated when the application for the remaining formula grant monies will be opened.

For more detailed information, visit the CalGEM webpage.