Overview

California is the third largest oil producing state in the United States, producing slightly more than oil-rich Alaska. Some of the nation's highest-producing oil and gas fields rest in California's Central Valley region, while the nation's largest urban oil field sits underneath California's largest metropolis: Los Angeles. As a result of over 100 years of oil and gas development, almost one million Californians—many of whom are from underserved and already environmentally burdened communities—live within a half-mile of an oil and gas facility. Tens of thousands of Californians live much closer -some immediately adjacent to active operating equipment.

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Public health studies examining the impact of oil and gas operations on nearby communities have demonstrated a link between site-level emissions and an increasing number of public health concerns. However, even though California has a long history of air quality monitoring, real-time data on oil and gas site emissions—data that would potentially drive reductions in pollution—remains practically non-existent.

While high costs have historically hindered widespread deployments of pollution monitoring technology, recent efforts and technological breakthroughs have increased the affordability and reliability of monitors to the point that continuous, real-time monitoring can more readily be deployed. As the monitoring field rapidly advances, further price declines will allow more extensive use. As facility operators, the government and communities make increasing use of monitoring technology, reductions in human exposure risk, improved management of the state's valuable mineral resources and improved health of populations near points of emissions are likely to follow.

This report recommends the implementation of new, robust monitoring standards and deployments at, and near, oil and gas facilities, coupled with public health and community engagement policies that focus on data collection, transparency, and analysis—all made possible by advancements in real-time monitoring technology. Implementing these recommendations can generate data with important geographic and temporal resolution and aid in conducting health-risk and exposure assessments, which can improve regulatory decision making. Importantly, these monitoring recommendations are not a replacement for policies that establish appropriate buffer distances between industrial operations and people living in close proximity, but they can provide data to substantiate the efficacy of, and improve, the science on buffer distances. These recommendations fit into emerging efforts brought about by recent state legislation to better monitor oil and gas sites located in close proximity to California families.