

Amy Townsend-Small

. My name is Amy Townsend-Small and I'm a professor of Environmental Studies at University of Cincinnati. I study methane emissions and other environmental impacts of the oil and gas supply chain. One aspect of my work is studying abandoned and marginal wells, and my students and I have published some of the first studies of methane, hydrogen sulfide, and harmful air pollutant emissions from marginal wells in Texas and other states.

My research clearly shows that marginal wells, or those that produce less than 15 barrels of oil equivalent per day, are a disproportionate source of methane relative to their production. In other words, methane emissions from marginally producing wells are very high relative to the amount of energy they provide for Americans. My research shows that marginal wells emit approximately half of methane emissions from all of America's oil and gas wells, while they produce less than 10% of our energy needs.

We have also found that marginal wells in the lowest production category – wells that produce less than 1 barrel of oil or its equivalent per day – could be responsible for 10% of methane emissions from the whole supply chain. And these wells produce less than half a percent of our nation's oil and gas.

In addition to methane, marginal wells emit harmful air pollutants such as hexane, benzene, and cyclohexane, which can cause health problems for people living and working near these wells.

We also recently published a study of hydrogen sulfide emissions from marginally producing wells located in Luling and Lockhart, Texas. We found levels of hydrogen sulfide that are immediately dangerous to life from wells that are venting all of the produced gas. Not only are these wells emitting high levels of methane and hydrogen sulfide from venting, we also found that production records in state databases for some wells had not been updated for years.

Marginal wells are a major contributor to methane emissions and air pollution, and should be included in EPA's Waste Emissions Charge program. In addition, marginal wells that are venting natural gas and hydrogen sulfide should be prioritized for plugging as part of the Methane Emissions Reduction Program.