## Invisible disaster drives people from upscale LA community: The California **Methane Nightmare**

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Invisible disaster drives people from upscale LA community

By BRIAN MELLEY

LOS ANGELES (AP) -- Laura Gideon and her family endured the sickening stench from an out-of-control natural gas leak for about a month before they could no longer tolerate the

After she went to the emergency room in November vomiting and with a severe migraine, Gideon, her husband and their two children abandoned the only home they'd ever known together in the upscale Los Angeles suburb of Porter Ranch Buy AP Photo Reprints

They moved in with her parents about 10 miles away to await a fix that could still be months away.

"We're in mourning now," she said. "We didn't ever want to leave. We were in a nice gated community. We were safe, you know, supposedly good schools. This wasn't our plan."

Thousands of her neighbors have voluntarily followed suit in an exodus from an invisible threat that wafts occasionally and doesn't sicken everyone in its path, though it continues to spew enormous amounts of climate-changing methane

The leak has cost the utility \$50 million so far and is expected to balloon as the company tries a tricky fix to plug a well deep underground, while also shelling out compensation for exasperated residents and fighting dozens of lawsuits.

Gov. Jerry Brown declared an emergency last week for the prolonged blowout that requires the utility to cover the costs and instructs state regulators to protect

The well is one of 115 in the Santa Susana Mountains where Southern California Gas Co., a division of San Diego-based Sempra Energy, stores natural gas in a vacant oil field about a mile and a half underground. It is the largest natural gas storage facility west of the Mississippi River and can provide energy to all

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It has been gushing the equivalent of about a quarter of the state's daily output of methane, along with other gases, since it was reported Oct. 23. It is also blamed for depositing tiny oil droplets on cars and houses that are about a mile away.

The hillside Porter Ranch community of about 30,000 people in mostly single-family homes has grown considerably in the three decades since scenes in the movie "E.T. The

Public health officials said most of the gas is dissipating and not causing long-term problems, but foul-smelling additives that make highly flammable gas detectable has been blamed for maladies including irritated throats, coughs and respiratory problems

"It's like being in a disaster area, but it's not a disaster you can see," said Sue Hammarlund, who has seen her share of national disasters as a Red Cross volunteer and has suffered from headaches and nosebleeds recently. "I think this is more debilitating mentally

Two local schools closed before the end of the year and nearly 1,900 students will start the year at different schools Monday.

While more than 4.500 families have either left or are on the move, many have staved behind - either because they're not bothered by the smell, aren't worried or don't want to hassle with

Bob Casselman has lived near the entrance to the gas facility 43 years. His wife, Pat, has only noticed the smell a few times and had very few symptoms. The retirees are concerned about the impact on property values, but they're not moving.

"I can't understand all these people," Bob Casselman said. "Everybody wants a freebie ... Unless something's really bad, we don't complain."

The company has applicated for failing to disclose the leak after residents began complaining about the smell and for reacting slowly to their concerns.

The incident is unprecedented for a utility and it is "forging new ground," said Gillian Wright, a SoCalGas vice president.

Under orders from the county health department to relocate people who want to leave, SoCalGas has offered to pay up to \$250 a night for hotels, plus \$45 per person per day for food, or up to up to \$7,500 a month for rental homes. The leak is expected to be stopped in March, but the company has agreed to house people through April.

Some residents have complained about not getting help calls returned and not finding relocation services helpful.

Cheri Derohanian said representatives she spoke with in Chicago and Colorado were useless because they didn't know the lay of the land. One found her a downtown Los Angeles condo that was 30 miles away and better suited for urban hipsters than her family of four.

"We're not a bunch of hicks. We're like Porter Ranch, it's like, you know, the Beverly Hills of the valley," Derohanian said. "We're like BMW people and you're giving us Pinto service."

Many have set out on their own only to lose bidding wars to neighbors or encounter sky-high rents when landlords realize they're gas leak refugees.

Megan Zahedi said she hasn't been helped by the gas company and when she sought housing she found rents doubled to \$9,000 a month and houses were snapped up immediately.

"We're not looking for a vacation provided by the gas company," said the single mother, who fears paying a mortgage and additional rent. She feels like a bad parent as her two children suffer from rashes, nausea and headaches, and have been abandoned by their friends

Down the street in the 1,100-home Porter Ranch Estates, Gideon entered a dark and cold home to

pick up a few things Wednesday. She moved here with her college sweetheart 17 years ago. It's where her children took their first steps. The heights of the two are penciled on a wall in the garage

Everything in the two-story stucco-and-brick house was as they left it seven weeks ago. Portraits and family vacation photos lined walls and shelves. Her husband's UCLA football jersey was framed on the family room wall. Toys and dolls were scattered on her daughter's bedroom floor.

A neighbor who is among those who fear a crime spike in vacant houses called to make sure it was Gideon in the house.

The stench was gone that day. Her 11-year-old daughter, Faith, didn't get a headache and said it felt good to be home - even briefly. Gideon isn't sure what the future holds, but she doesn't plan to return permanently.

"The American dream turned into a bit of disaster for us," she said. "We're not coming back. In my opinion, it would be negligent."

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California Methane Leak Disaster Is Costing American Taxpayers A "MILLION DOLLARS PER MINUTE" for every minute it leaks into atmosphere!

The Biggest Environmental Disaster In the History Of The West Coast Could Be Turned Into The Greenest Energy Solution

By Dean Lester

These headlines are shocking millions of people across the nation:

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Massive volumes of Methane gas are leaking into the air from the Porter Ranch disaster. Additionally, it is not California's only methane leak. It sounds like a sci-fi disaster film but it is a real event and it is happening now. Innovative technology companies have solutions at hand, which can turn the disaster into an upside.

Methane is a chemical. Methane (/me@ern/) or /mi@ern/) is a chemical compound with the chemical formula CH<sub>4</sub> (one atom of carbon and four atoms of hydrogen). It is the simplest alkane and the main component of natural gas. The relative abundance of methane on Earth makes it an attractive fuel, though capturing and storing it poses challenges due to its gaseous state found at standard conditions for temperature and pressure.

In its natural state, methane is found both below ground and under the sea floor, where it often finds its way to the surface and the atmosphere where it is known as atmospheric methane.[5] The Earth's atmospheric methane concentration has increased by about 150% since 1750, and it accounts for 20% of the total radiative forcing from all of the long-lived and globally mixed greenhouse gases (these gases don't include water vapor which is by far the largest component of the greenhouse effect).[6] Methane breaks down in the atmosphere and creates CH:3 with water vapor.

This is a "disaster". That means that it is a very large scale event that affects a broad area and a large number of citizens.

Usually, in a disaster, bureaucrats hold press conferences and town halls but little gets done to solve the disaster. The California methane leak(s) have been going on for awhile, and have been getting worse. The problem comes from half of the State officials running around trying to implement solutions that are not routine, in a bureaucratic world entirely operated by routine. The first half of the officials are sincerely trying to solve the problem, but they are totally outside of their skill-set and not used to dealing in speed and over-night turnarounds. They are dedicated, devoted and sincere but they are stymied at every turn by the other half of the officials.

The other half of the State officials have kick-back payola deals with contractors who either caused the disaster or can help provide services for the disaster. They also get campaign financing, from those suppliers for their bosses. They also have promises of lucrative jobs, called "revolving doors", after they leave their State jobs from those very same suppliers, as payola. When the first group of good guy "Try Hard" State officials runs into the second group of bad guy corrupt State officials, in the course of trying to solve the problem, the second bunch tells the first bunch: "No, No, you can only use my friends to do this". Then the brick walls go up and nothing ever gets done. While those kinds of half decade long delays may be OK for State prison food service contracts or asphalt contractor decisions, it gets people sick, homeless, or dead in a disaster. The second half, if their guys were involved in creating the disaster, will stall help, in order to avoid being caught "with their pants down" being associated with malfeasance that may have caused the Disaster. These kinds of malfeasance/corruption discoveries eventually lead to citizen class-action lawsuits in the billions of dollars.

What is needed is an outside HOT SHOT SWAT Team of non bureaucratic experts to come in and just get it done. These outsiders show up 48 hours after the disaster, take over an

abandoned aircraft hanger, or warehouse. Build a "War Room", overnight and get to work. For tens of millions of dollars, a Hot Shot team can save the State hundreds of billions of dollars in lawsuits and losses.

Hot Shot teams of scientists have now proposed that the State Of California let them solve the problem by turning the Methane into clean energy fuel.

Energy production from fossil fuels without emissions of climate-affecting carbon dioxide — this vision might come true through the research program "Combustion of Methane without CO2 Emissions." Since late 2012, KIT has been partner in the program that is part of the Earth, Energy, and Environment (E3) Cluster of the Institute for Advanced Sustainability Studies (IASS), Potsdam. "This is the truly pioneering experiment with the ambition of using fossils without CO2 emissions," said the scientific director of IASS and physics Nobel Prize laureate Professor Carlo Rubbia when visiting KIT today.

Hydrogen represents a promising medium for the storage and transport of energy in the future. However, it is bound in water (H2O) or hydrocarbons, such as petroleum, natural gas or coal. Consequently, the hydrogen has to be separated first. In the course of conventional separation processes, the climate-affecting greenhouse gas carbon dioxide is formed. Today's worldwide hydrogen production causes about 5% of the global CO2 emissions.

CO2-free hydrogen production at KIT will be achieved by thermal decomposition of methane in a high-temperature bubble column reactor. KIT researchers enter entirely new ground. "With this project, we have the opportunity to participate in the development of fundamentals for a completely new energy technology," explains the head of KALLA, Professor Thomas Wetzel. "If feasibility can be confirmed, sustainable production and use of hydrogen from fossil sources that would have affected the climate if they were used conventionally will be possible."

The liquid-metal bubble column reactor to be built up at KALLA in the next months is a vertical column of about half a meter in height and a few centimeters in diameter. The column is filled with liquid metal that is heated up to 1000°C. Fine methane bubbles enter the column through a porous filling at the bottom. These bubbles rise up to the surface. "At such high temperatures, the ascending methane bubbles are increasingly decomposed into hydrogen and carbon," explains Professor Thomas Wetzel. "We will study how much hydrogen can be produced by a smart process conduct."

The KIT liquid-metal bubble column reactor is based on previous work of Professor Carlo Rubbia and Professor Alberto Abánades from IASS. They studied thermal decomposition of methane in a gas-phase reactor. During this gas-phase reaction, however, the carbon formed deposited on the reactor walls. As a result, gas channels were plugged after a short time and no continuous process was possible. "In the reactor planned to be built in cooperation with the IASS colleagues, the shell of the bubbles assumes the role of the wall," explains Thomas Wetzel. "Only when the bubbles burst at the surface of the liquid metal, is carbon released. The reactor wall is constantly renewed." A similar approach was described by researchers in the team of Manuela Serban from the Argonne National Lab, USA, about ten years ago. Since then, however, this process has not been developed any further.

Following the setup of the test reactor, KIT scientists will study various parameters influencing process conduct and potential hydrogen yield this year. Work at KIT will also focus on fundamental scientific aspects, for example, on the identification of reaction paths influencing the composition of the product gas flow and on possibilities of removing carbon from the reactor. In parallel, the scientists will select materials for potential future industrial reactors, study filter technology, and develop probes for a later continuous process conduct.

Karlsruhe Institute of Technology (KIT) is one of Europe's leading energy research establishments. Research, education, and innovation at KIT foster the energy turnaround and reorganization of the energy system in Germany. KIT links excellent competences in engineering and science with know-how in economics, the humanities, and social science as well as law. The activities of the KIT Energy Center are organized in seven topics: Energy conversion, renewable energies, energy storage and distribution, efficient energy use, fusion technology, nuclear power and safety, and energy systems analysis. Clear priorities lie in the areas of energy efficiency and renewable energies, energy storage technologies and grids, electromobility, and enhanced international cooperation in research.

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A California company: THE POWER, (https://fcpower.biz) wants to convert the methane to Hydrogen for Toyota's, Kia's and Hyundai's fuel cell vehicles using tubular plasma converters or steam reforming and has asked the State of California for funding to help deploy it's patented, government sponsored technology. So far, KIT, THE POWER, U.C. Berkeley Grad students, Erin Brokovitch and others, have not had much luck winding their way through California's administrative log-jams