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NEWS RELEASE

SoCalGas to Partner with SunLine Transit Agency to Test Innovative Technologies that Reduce Cost of Hydrogen Production

The three-year demonstration research project will integrate groundbreaking technologies to produce hydrogen for fuel cell vehicles at prices competitive with gasoline

LOS ANGELES, Calif., April 21, 2021 – [Southern California Gas Co.](#) (SoCalGas) announced today it will demonstrate a groundbreaking technological combination that will produce hydrogen from renewable natural gas (RNG) at [SunLine Transit Agency's](#) hydrogen fueling station in Thousand Palms, California. The research project, called “H2 SilverSTARS,” will produce renewable hydrogen to fuel SunLine’s fleet of 17 hydrogen fuel cell electric buses and support further expansion. The combination of new technologies will make it possible to provide renewable hydrogen made from RNG at natural gas fueling stations—or any location near a natural gas pipeline. The goal is to produce emissions-free renewable hydrogen for fuel cell electric cars and other vehicles at a price competitive with gasoline. Photos and video of the SunLine buses and a diagram of the STARS technology are available [here](#).

Hydrogen-powered fuel cell electric vehicles are expected to play an important role in meeting California Governor Newsom's executive order requiring all new cars sold in the state be zero-emissions by 2035. As demand for these cars increases, Californians will need thousands more stations where they can fuel up with hydrogen.

The demonstration project will integrate two core technologies. The first, [Linde's HydroPrime HC300 MIN](#) system, will make hydrogen from renewable natural gas the same way large centralized hydrogen production plants do—but with compact equipment small enough to fit in a tractor trailer container. While Linde's system is already commercially available and being used abroad, its use at SunLine's fueling station will be the first time it is deployed in North America. The SunLine location will be able to produce up to 650 kilograms of hydrogen a day.

The second technology, [STARS-165 SMR](#), built by the start-up STARS corporation, takes the Linde system a step further. It achieves significantly greater efficiencies in producing hydrogen by using a [compact microchannel design](#) and is driven by an electricity-powered induction heating process, meaning there is no combustion, which significantly reduces greenhouse gas emissions compared to traditional hydrogen

production. In addition, the system is produced using 3-D printing, making it well suited for mass-production and thus drastically less expensive to make and operate compared to alternatives. Two STARS systems, with a combined production capacity of up to 330 kilograms of hydrogen a day, will be installed for this research project.

The 36-month project will initially demonstrate both core technologies individually and collect performance data to assess the STARS system's potential to improve its efficiency and cost. The STARS SMR technology will then be integrated with the Linde HydroPrime system with the goal of fast-tracking its commercialization.

"These technologies could drastically change the face of hydrogen production in California, creating the opportunity for anyone to fill up their fuel cell electric car, truck or bus with low- or zero-carbon hydrogen anywhere there's a natural gas pipeline," said Neil Navin, SoCalGas vice president of clean energy innovations. "For SoCalGas, this is another step toward meeting our pledge to achieve net zero greenhouse gas emissions in our operations and delivery of energy by 2045."

"Our agency has been a longtime advocate of advancing clean air and alternative fuel technology. This partnership with SoCalGas allows us to continue converting our fleet to zero-emissions five years ahead of state mandates," said Lauren Skiver, SunLine Transit Agency's CEO/General Manager and California Hydrogen Business Council chair. "It also helps us realize our goal of making hydrogen fueling accessible to the public in order to inspire a cleaner tomorrow."

"I commend SunLine Transit Agency and SoCalGas for continuing to push the envelope, building on our technological capacity for renewable hydrogen, and elevating our region's role in driving these innovations forward," said California Assemblymember Eduardo Garcia (D-Coachella), Ex Officio Member of the California Air Resources Board. "Each advancement and production efficiency brings us closer to achieving California's groundbreaking emission reduction, electric vehicle, and clean air goals."

"The microchannels in this technology make the chemical reactions far faster and vastly more efficient than traditional steam methane reformation, and it's also far less expensive to produce," said Robert Wegeng, President of STARS Technology Corporation. "And because this technology uses induction heating—which can be powered by renewable electricity—the entire process can be zero emissions when renewable natural gas is used. We look forward to analyzing the results of this important research alongside SoCalGas and SunLine Transit."

"Renewable hydrogen is essential to California's effort to reduce pollution and decarbonize the energy we use throughout the economy, including the transportation sector," said Bill Zobel, executive director of the California Hydrogen Business Council. "This new technology and partnership between SunLine and SoCalGas will play an important role in ensuring the state achieves its transportation electrification goals and advancing zero emissions fuel accessibility to all Californians."

SunLine Transit Agency is a national leader in providing environmentally conscious public transportation services. The agency was a pioneer in adoption of hydrogen as a fuel and has had a hydrogen infrastructure on-site since 2000 with the first fuel cell electric bus in operation that same year. Recently the Agency completed the construction of a 900 kg/day hydrogen electrolyzer—the largest renewable hydrogen-producing station in the country for transportation—creating the infrastructure needed to maintain and grow a fleet of buses that are 100% zero-emissions. The renewable hydrogen generated as part of this demonstration on site will be used to fuel their current fleet of 17 hydrogen buses and support further expansion.

About SoCalGas

Headquartered in Los Angeles, [SoCalGas®](#) is the [largest gas distribution utility](#) in the United States. SoCalGas delivers affordable, reliable, clean and increasingly renewable gas service to 21.8 million consumers across [24,000 square miles](#) of Central and Southern California. Gas delivered through the company's pipelines will continue to play a key role in California's clean energy transition—providing electric grid reliability and supporting wind and solar energy deployment.

SoCalGas' mission is to build the [cleanest, safest and most innovative energy company in America](#). In support of that mission, SoCalGas is committed to achieving [net-zero greenhouse gas emissions](#) in its operations and delivery of energy by 2045 and to replacing 20% of its traditional natural gas supply to core customers with renewable natural gas (RNG) by 2030. Renewable natural gas is made from waste created by dairy farms, landfills and wastewater treatment plants. SoCalGas is also committed to investing in its gas delivery infrastructure while keeping bills affordable for customers. Over the past five years, the company invested nearly \$7.5 billion to upgrade and modernize its pipeline system to enhance safety and reliability. SoCalGas is a subsidiary of [Sempra Energy](#) (NYSE: SRE), an energy services holding company based in San Diego. For more information visit socialgas.com/newsroom or connect with SoCalGas on [Twitter](#) (@SoCalGas), [Instagram](#) (@SoCalGas) and [Facebook](#).

About SunLine Transit Agency

[SunLine](#) provides public transit services in California's Coachella Valley spanning 1,120 mile-service area and carrying approximately 4.2 million riders. It has pioneered zero-emission bus deployments, particularly for hydrogen fuel cell electric buses (FCEB). In 1993, SunLine's Board adopted a voluntary policy of pursuing alternative fuel solutions that provide the lowest possible emissions, which led to SunLine becoming the first transit agency in the state to convert its entire fleet to compressed natural gas (CNG). SunLine is committed to transitioning its entire bus fleet to zero-emission by 2035.

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