



Sempra Energy and National Renewable Energy Laboratory Collaborate to Advance Future Net-Zero Energy Systems

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- Driving Innovation Through Long-Running Collaboration - Advancing Technologies to Develop Secure, Connected Net-Zero Energy Systems of the Future

SAN DIEGO, June 10, 2021 /PRNewswire/ -- [Sempra Energy](#) (NYSE: SRE) today announced it has signed a Memorandum of Understanding (MOU) with the U.S. Department of Energy's (DOE's) National Renewable Energy Laboratory (NREL), providing a framework for a joint effort to advance future net-zero energy systems. The MOU, which builds off nearly 10 years of ongoing collaboration, will continue current work researching and developing innovative solutions to help shape a lower-carbon future through technology and applications capable of withstanding increasing energy demand and broad adoption while advancing future innovation.



"To achieve global carbon-neutrality, energy systems will need to transform dramatically over the coming decades. Our partnership with NREL drives forward a vision to advance the energy systems of the future by focusing on innovation and resiliency," said Lisa Alexander, senior vice president of corporate affairs and chief sustainability officer for Sempra Energy. "New investment and innovative partnerships are critical to developing solutions that will manifest a global energy transition while promoting economic growth and prosperity."

"Building on our strong history of collaboration, we are excited to accelerate our work with Sempra to advance clean energy solutions," said Doug Arent, executive director for strategic public-private partnerships at NREL. "Researching key synergies across power, low carbon fuels and industrial sectors are expected to provide critical innovations toward realizing a low carbon, equitable, affordable, secure and reliable energy economy."

Sempra Energy and NREL have been collaborating for nearly a decade on cooperative and multi-year projects exploring the development, access and integration of low-carbon fuels and microgrid technology. In 2013, Sempra Energy's subsidiary San Diego Gas & Electric Co. (SDG&E) and NREL joined to establish the [nation's first utility-owned community microgrid](#) in Borrego Springs, Calif., connected to a local 26-megawatt solar field (owned by a third party), two battery storage systems, two generators, and an ultracapacitor. The microgrid, which is being upgraded so that it can operate on 100% clean energy, was designed to provide consistent power flowing to the remote desert town during emergencies and planned outages on the larger grid. In 2017, Sempra Energy's subsidiary Southern California Gas Co. (SoCalGas) and NREL partnered to create, validate and integrate the [nation's first carbon-free, power-to-gas pilot-system](#). The technology takes excess electricity and converts it to hydrogen, which can be used, stored, or combined with carbon dioxide and fed to a bioreactor to produce renewable natural gas (RNG). This innovative technology could provide North America with a large-scale, cost-effective solution for storing excess energy produced from renewable sources. Additionally, Sempra Energy and NREL have coordinated efforts to research the impacts of hydrogen blending in natural gas networks, and studied potential pathways for wholesale market access to hydrogen production facilities.

Under the MOU, which is not legally binding but sets forth a framework for cooperation, Sempra Energy and NREL will coordinate and share objectives focused on:

- Advancing artificial intelligence to scale solutions across the U.S. and enable cities to reach clean energy goals;
- Integrating low-carbon fuel solutions, including hydrogen, renewable natural gas, carbon capture, utilization and sequestration, and fuel cells;
- Exploring innovative solutions towards 100% renewable energy communities, requiring and implementing smart and enhanced controls, integration and operational capabilities as a blueprint for expansion;
- Enhancing electric grids with technology that upgrades the infrastructure with a focus on reliability, connectivity and security; and
- Promoting viable net-zero solutions that are delivered with equity and widespread community access.

In its current work, Sempra Energy and its operating companies, including SoCalGas and SDG&E, are also exploring the decarbonization of regional and industrial hubs, or industrial clusters, to mitigate carbon emissions from industrial processes – such as manufacturing, steel and chemicals – that cannot be electrified. The companies, in partnership with NREL and the U.S. Department of Energy, are researching integrated solutions that may

enable these sectors to achieve significant emissions reductions, while maintaining productivity, creating jobs, and fostering healthier communities.

Sempra Energy looks forward to working with NREL to help decarbonize industries, homes and energy and transportation systems, while continuing to deliver resilient, reliable and sustainable energy in every market it serves and to consumers around the world.

About Sempra Energy

Sempra Energy's mission is to be North America's premier energy infrastructure company. The Sempra Energy family of companies has more than 19,000 talented employees who deliver energy with purpose to over 36 million consumers. With more than \$66 billion in total assets at the end of 2020, the San Diego-based company is the owner of one of the largest energy networks in North America serving some of the world's leading economies. The company is helping to advance the global energy transition by enabling the delivery of lower-carbon energy solutions in each market it serves, including California, Texas, Mexico and the LNG export market. Sempra Energy is consistently recognized as a leader in sustainable business practices and for its long-standing commitment to building a high-performing culture including safety and diversity and inclusion. Sempra Energy is the only North American utility sector company included on the Dow Jones Sustainability World Index and was also named one of the "World's Most Admired Companies" for 2021 by Fortune Magazine. For additional information about Sempra Energy, please visit Sempra Energy's website at www.sempra.com and on Twitter [@SempraEnergy](https://twitter.com/SempraEnergy).

This press release contains statements that constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are based on assumptions with respect to the future, involve risks and uncertainties, and are not guarantees. Future results may differ materially from those expressed in any forward-looking statements. These forward-looking statements represent our estimates and assumptions only as of the date of this press release. We assume no obligation to update or revise any forward-looking statement as a result of new information, future events or other factors.

In this press release, forward-looking statements can be identified by words such as "believes," "expects," "anticipates," "plans," "estimates," "projects," "forecasts," "should," "could," "would," "will," "confident," "may," "can," "potential," "possible," "proposed," "in process," "under construction," "in development," "target," "outlook," "maintain," "continue," or similar expressions, or when we discuss our guidance, priorities, strategy, goals, vision, mission, opportunities, projections, intentions or expectations.

Factors, among others, that could cause actual results and events to differ materially from those described in any forward-looking statements include risks and uncertainties relating to: California wildfires, including the risks that we may be found liable for damages regardless of fault and that we may not be able to recover costs from insurance, the wildfire fund established by California Assembly Bill 1054 or in rates from customers; decisions, investigations, regulations, issuances or revocations of permits and other authorizations, renewals of franchises, and other actions by (i) the Comisión Federal de Electricidad, California Public Utilities Commission (CPUC), U.S. Department of Energy, Public Utility Commission of Texas, and other regulatory and governmental bodies and (ii) states, counties, cities and other jurisdictions in the U.S., Mexico and other countries in which we do business; the success of business development efforts, construction projects and major acquisitions and divestitures, including risks in (i) the ability to make a final investment decision, (ii) completing construction projects or other transactions on schedule and budget, (iii) the ability to realize anticipated benefits from any of these efforts if completed, and (iv) obtaining the consent of partners or other third parties; the resolution of civil and criminal litigation, regulatory inquiries, investigations and proceedings, and arbitrations, including, among others, those related to the natural gas leak at Southern California Gas Company's (SoCalGas) Aliso Canyon natural gas storage facility; the impact of the COVID-19 pandemic on our capital projects, regulatory approval processes, supply chain, liquidity and execution of operations; actions by credit rating agencies to downgrade our credit ratings or to place those ratings on negative outlook and our ability to borrow on favorable terms and meet our substantial debt service obligations; actions to reduce or eliminate reliance on natural gas, including any deterioration of or increased uncertainty in the political or regulatory environment for local natural gas distribution companies operating in California, and the impact of volatility of oil prices on our businesses and development projects; weather, natural disasters, pandemics, accidents, equipment failures, explosions, acts of terrorism, computer system outages and other events that disrupt our operations, damage our facilities and systems, cause the release of harmful materials, cause fires and subject us to liability for property damage or personal injuries, fines and penalties, some of which may not be covered by insurance, may be disputed by insurers or may otherwise not be recoverable through regulatory mechanisms or may impact our ability to obtain satisfactory levels of affordable insurance; the availability of electric power and natural gas and natural gas storage capacity, including disruptions caused by failures in the transmission grid, limitations on the withdrawal of natural gas from storage facilities, and equipment failures; cybersecurity threats to the energy grid, the storage and pipeline infrastructure, the information and systems used to operate our businesses, and the confidentiality of our proprietary information and the personal information of our customers and employees; expropriation of assets, failure of foreign governments and state-owned entities to honor their contracts, and property disputes; the impact at San Diego Gas & Electric Company (SDG&E) on competitive customer rates and reliability due to the growth in distributed and local power generation, including from departing retail load resulting from customers transferring to Direct Access and Community Choice Aggregation, and the risk of nonrecovery for stranded assets and contractual obligations; Oncor Electric Delivery Company LLC's (Oncor) ability to eliminate or reduce its quarterly dividends due to regulatory and governance requirements and commitments, including by actions of Oncor's independent directors or a minority member director; volatility in foreign currency exchange, inflation and interest rates and commodity prices and our ability to effectively hedge these risks; changes in tax and trade policies, laws and regulations, including tariffs and revisions to international trade agreements that may increase our costs, reduce our competitiveness, or impair our ability to resolve trade disputes; and other uncertainties, some of which may be difficult to predict and are beyond our control.

These risks and uncertainties are further discussed in the reports that Sempra Energy has filed with the U.S. Securities and Exchange Commission (SEC). These reports are available through the EDGAR system free-of-charge on the SEC's website, www.sec.gov, and on the company's website, www.sempra.com. Investors should not rely unduly on any forward-looking statements.

Sempra North American Infrastructure, Sempra LNG, Sempra Mexico, Sempra Texas Utilities, Oncor and Infraestructura Energética Nova, S.A.B. de C.V. (IEnova) are not the same companies as the California utilities, SDG&E or SoCalGas, and Sempra North American Infrastructure, Sempra LNG, Sempra Mexico, Sempra Texas Utilities, Oncor and IEnova are not regulated by the CPUC.



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