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Carbon Capture and Storage Gains Wide Industry Support in Houston

- Eleven companies support large-scale deployment of carbon capture and storage to help decarbonize industrial facilities; discussions ongoing with others
- Collective efforts could capture and store approximately 50 million metric tons of CO₂ per year by 2030; 100 million by 2040
- Companies bring collective expertise as industry leaders with diverse capabilities

HOUSTON, Texas – Eleven companies have expressed interest in supporting the large-scale deployment of carbon capture and storage (CCS) technology in Houston. Calpine, Chevron, Dow, ExxonMobil, INEOS, Linde, LyondellBasell, Marathon Petroleum, NRG Energy, Phillips 66 and Valero have agreed to begin discussing plans that could lead to capturing and safely storing up to 50 million metric tons of CO₂ per year by 2030 and about 100 million metric tons by 2040.

The companies plan to help address industrial CO₂ emissions in one of the largest concentrated sources in the United States. Collectively, the 11 companies are considering using CCS technology at facilities that generate electricity and manufacture products that society uses every day, such as plastics, motor fuels and packaging.

If CCS technology is fully implemented at the Houston-area facilities these 11 companies operate, nearly 75 million metric tons of CO_2 could be captured and stored per year by 2040. There are ongoing discussions with other companies that have industrial operations in the area to add even more CO_2 capture capacity. They could announce their support at a later date and add further momentum toward the city of Houston's ambitions to be carbon neutral by 2050.

"Houston can achieve our net zero goals by working together, and it's exciting to see so many companies have already come together to talk about making Houston the world leader in carbon capture and storage," said Sylvester Turner, Mayor of Houston. "We're reimagining what it means to be the energy capital of the world, and applying proven technology to reduce emissions is one of the best ways to get started."

Wide-scale deployment of CCS in the Houston area will require the collective support of industry, communities and government. If appropriate policies and regulations are put in place, CCS could generate tens of thousands of new jobs, protect current jobs and reduce emissions at a lower cost to society than many other widely available technologies. The 11 companies will continue to advocate

for policies that enable the long-term commercial viability of new, expanded and existing CCS investments in Texas.

CCS is the process of capturing CO_2 from industrial activity that would otherwise be released into the atmosphere and injecting it into deep underground geologic formations for safe, secure and permanent storage. With supportive regulations, CO_2 from the Houston industrial area could be safely stored in the U.S. Gulf Coast region in formations thousands of feet below the surface or seabed. The U.S. Department of Energy estimates that storage capacity along the U.S. Gulf Coast is enough to hold 500 billion metric tons of CO_2 — more than 130 years of the country's total industrial and power generation emissions, based on 2018 data.

Although renewables will continue to play an important role in a lower-carbon energy future, CCS is one of the few proven technologies that could enable some industry sectors to decarbonize, such as manufacturing and heavy industry. The International Energy Agency projects CCS could mitigate up to 15 percent of global emissions by 2040, and the U.N. Intergovernmental Panel on Climate Change (IPCC) estimates global decarbonization efforts could be twice as costly without CCS.

About the Companies:

About Calpine

Calpine Corporation is America's largest generator of electricity from natural gas and geothermal resources, with operations in major competitive wholesale and retail power markets across the U.S. Through wholesale power operations and our retail businesses, Calpine's diverse team of approximately 2,300 employees serves customers across 22 states, Canada and Mexico. Calpine operates a fleet of 76 power plants representing nearly 26,000 MW of generation capacity. Environmental stewardship is fundamental to Calpine's philosophy and culture; in addition to operating the largest geothermal facility in the world and the youngest, most efficient fleets of gas-fired power plants, Calpine has been a long-time advocate of the Clean Power Plan, Paris Agreement, carbon pricing and decarbonization.

"Calpine is working hard to advance carbon capture projects at its Houston-area cogeneration facilities and is proud to support this endeavor," said Caleb Stephenson, executive vice president of commercial operations at Calpine. "But this is just the beginning of what we can accomplish with the right policies, including the enhanced 45Q credit that <u>climate champions are now advancing</u> in Congress. For economy-wide change, we must take advantage of the opportunities available right now to build on the expansion of clean energy with innovative solutions that can quickly and effectively address emissions that other technologies leave behind. For Calpine, this is a natural part of a comprehensive strategy that includes our own major investments in geothermal, grid-connected storage, and high-efficiency plants to power a cleaner future."

About Chevron

Chevron is one of the world's leading integrated energy companies. We believe affordable, reliable and ever-cleaner energy is essential to achieving a more prosperous and sustainable world. Chevron produces crude oil and natural gas; manufactures transportation fuels, lubricants, petrochemicals and additives; and develops technologies that enhance our business and the industry. To advance a lower carbon future, we are focused on lowering carbon intensity in our operations and growing lower carbon businesses. More information about Chevron is available at <u>www.chevron.com</u>.

"Carbon capture and storage has a critical role to play in advancing a lower carbon future," said Jeff Gustavson, president of Chevron New Energies. "Success will require collaboration across energy partners, government and other industries. Chevron looks forward to leveraging our unique capabilities and helping build partnerships in Houston that can enable this technology."

About Dow

Dow combines global breadth, asset integration and scale, focused innovation and leading business positions to achieve profitable growth. The Company's ambition is to become the most innovative, customer centric, inclusive and sustainable materials science company, with a purpose to deliver a sustainable future for the world through our materials science expertise and collaboration with our partners. Dow's portfolio of plastics, industrial intermediates, coatings and silicones businesses delivers a broad range of differentiated science-based products and solutions for its customers in high-growth market segments, such as packaging, infrastructure, mobility and consumer care. Dow operates 106 manufacturing sites in 31 countries and employs approximately 35,700 people. Dow delivered sales of approximately \$39 billion in 2020. References to Dow or the Company mean Dow Inc. and its subsidiaries. For more information, please visit <u>www.dow.com</u> or follow @DowNewsroom on Twitter.

"Many countries around the world are investing in carbon capture and storage infrastructure, as they understand the importance of CCS to decarbonize industrial sector emissions," said Jack Broodo, president of Dow Feedstocks and Energy Business. "The U.S. has an opportunity, as evidenced by this collection of willing companies, to invest in the infrastructure that will keep us competitive, generate tens of thousands of new jobs and signal to the world that the U.S. is committed to leading a low carbon emission economy."

About ExxonMobil

ExxonMobil has more than 30 years' experience in CCS technology and is advancing plans for multiple new CCS opportunities around the world. In March, ExxonMobil established a Low Carbon Solutions business to commercialize low-emission technologies. ExxonMobil is an industry leader in CCS technology. The company has an equity share in about one-fifth of global CO₂ capture capacity and has captured approximately 40 percent of all the captured anthropogenic CO₂ in the world. To learn more, visit <u>exxonMobil.com</u>, the <u>Energy Factor</u> and <u>Carbon capture and storage | ExxonMobil</u>.

"ExxonMobil is pleased to work with these companies to draw upon our collective global expertise in CCS, and explore and execute potential technology-driven solutions to reduce emissions in Houston," said Joe Blommaert, president of Low Carbon Solutions at ExxonMobil. "We can meet our goals in reducing industrial emissions together."

About INEOS

INEOS USA LLC, under the trade name INEOS Olefins & Polymers USA, and in conjunction with its various subsidiaries, is a major, integrated manufacturer of petrochemical products in North America, from upstream oil and gas production, to NGL fractionation, to olefins and polymers production, to downstream plastic pipe conversion, with production capacity of 9.6 billion pounds per year of olefins, polypropylene, and high-density polyethylene (HDPE) from five (5) manufacturing sites (including joint ventures), and 730 million pounds per year of HDPE pipe from eight (8) manufacturing sites. INEOS Olefins & Polymers USA has annual gross revenue of approximately \$4.5 billion, employs 1,700 people, and is headquartered in League City, Texas. INEOS Olefins & Polymers USA is one of 36 businesses forming INEOS Group, a global manufacturer of petrochemicals, specialty chemicals, and oil products, with a production network spanning 193 manufacturing facilities in 29 countries, employing 26,000 people, and with annual gross revenue of approximately \$61 billion. INEOS Group is an Anglo-Swiss conglomerate headquartered in London, United Kingdom, and Rolle, Switzerland.

"INEOS Olefins & Polymers USA is making investments to develop a circular plastics economy while reducing our CO₂ emissions, consistent with INEOS Group's commitment to achieving net zero emissions by 2050," said Gary Wallace, Vice President of Supply. "As part of that journey, carbon capture and storage provides an essential route to permanently and safely capture and store CO₂ emissions. These and similar efforts will keep Houston as the world-leading energy and petrochemical market, create new jobs, and protect thousands of existing ones."

About Linde

Linde is a leading global industrial gases and engineering company, with 2020 sales of \$27 billion (€24 billion). We live our mission of *making our world more productive* every day by providing highquality solutions, technologies and services which are making our customers more successful and helping to sustain and protect our planet. The company serves a variety of end markets including chemicals & refining, food & beverage, electronics, healthcare, manufacturing and primary metals. Linde's industrial gases are used in countless applications, from life-saving oxygen for hospitals to high-purity & specialty gases for electronics manufacturing, hydrogen for clean fuels and much more. Linde also delivers state-of-the-art gas processing solutions to support customer expansion, efficiency improvements and emissions reductions. For more information about the company and its products and services, please visit <u>www.linde.com</u>

"Linde views carbon capture and sequestration as an important tool to help reduce greenhouse gas emissions in the U.S.," said Dan Yankowski, president of Linde North America. "Our industry leading carbon capture technologies and global scale hydrogen facilities will undoubtedly help position Houston to be at the forefront of the clean energy transition and support their aim to become carbon neutral by 2050."

About LyondellBasell

LyondellBasell (NYSE: LYB) is one of the largest plastics, chemicals and refining companies in the world. Driven by its employees around the globe, LyondellBasell produces materials and products that are key to advancing solutions to modern challenges like enhancing food safety through lightweight and flexible packaging, protecting the purity of water supplies through stronger and more versatile pipes, improving the safety, comfort and fuel efficiency of many of the cars and trucks on the road, and ensuring the safe and effective functionality in electronics and appliances. LyondellBasell sells products into more than 100 countries and is the world's largest producer of polypropylene compounds and the largest licensor of polyolefin technologies. In 2021, LyondellBasell was named to FORTUNE Magazine's list of the "World's Most Admired Companies" for the fourth consecutive year. More information about LyondellBasell can be found at www.lyondellbasell.com.

"Mitigating the impact of human activity on climate change will take more than one company, one industry, one region or one solution. It will take all of us," said Jim Seward, senior vice president of research & development, technology and sustainability at LyondellBasell. "Efforts like this are an important step in the right direction toward achieving net zero emissions by 2050."

About Marathon Petroleum

Marathon Petroleum Corporation (NYSE: MPC) is a leading, integrated, downstream energy company headquartered in Findlay, Ohio. The company operates the nation's largest refining system. MPC's marketing system includes branded locations across the United States, including Marathon brand retail outlets. MPC also owns the general partner and majority limited partner interest in MPLX LP, a midstream company that owns and operates gathering, processing, and fractionation assets, as well as crude oil and light product transportation and logistics infrastructure. More information is available at <u>www.marathonpetroleum.com</u>.

"Both Marathon Petroleum and MPLX LP support the continued development and use of carbon capture, utilization and sequestration technology as a strategy to reduce CO₂ emissions," said Tim Aydt, executive vice president and chief commercial officer of MPLX LP, a master limited partnership sponsored by Marathon Petroleum Corporation. "Working with our industrial and regulatory partners in this energy-rich region is a critical component of assuring long-term, reliable fuel supplies for a sustainable, energy-diverse future."

About NRG Energy

NRG is bringing the power of energy to people and organizations by putting customers at the center of its business, generating electricity, and providing energy solutions and natural gas to millions of customers through a diverse portfolio of retail brands. A Fortune 500 company operating in the United States and Canada, NRG delivers innovative solutions while advocating for competitive energy markets and customer choice, working towards a sustainable energy future. More information is available at <u>www.nrg.com</u>. Connect with NRG on Facebook, LinkedIn and follow us on Twitter @nrgenergy.

"NRG is pleased to support this effort to advance carbon capture and storage in Houston," said Jeanne-Mey Sun, vice president of sustainability at NRG. "Economy-wide decarbonization is an imperative and by working together on this and other decarbonization pathways, we can enhance our collective impact."

About Phillips 66

Phillips 66 is a diversified energy manufacturing and logistics company. With a portfolio of Midstream, Chemicals, Refining, and Marketing and Specialties businesses, the company processes, transports, stores and markets fuels and products globally. Headquartered in Houston, the company has 14,000 employees committed to safety and operating excellence. Phillips 66 had \$57 billion of assets as of June 30, 2021. For more information, visit <u>www.phillips66.com</u> or follow us on Twitter @Phillips66Co.

In 2021, Phillips 66 introduced a new organization, Emerging Energy, to build a lower-carbon sustainable business platform. Emerging Energy will focus on carbon capture, renewable fuels, the battery value chain and hydrogen opportunities. Phillips 66 has active U.S. patents in carbon capture and sequestration and is pursuing CCS projects at its refineries. The company's Humber Refinery in the U.K. is a major player behind Humber Zero, a project that combines CCS technology with hydrogen production to lower emissions.

"Carbon capture is a bridge to the energy future," said Heath DePriest, vice president of Emerging Energy at Phillips 66. "The energy industry includes some of the brightest scientific and technical minds in the world today, and it will take all of us working together to achieve a lower-carbon future. This is a big opportunity for Houston to cement its status as the past, present and future energy capital of the world."

About Valero

Valero Energy Corporation, through its subsidiaries (collectively, "Valero"), is an international manufacturer and marketer of transportation fuels and petrochemical products. Valero is a Fortune 500 company based in San Antonio, Texas, and owns 15 petroleum refineries with a combined throughput capacity of approximately 3.2 million barrels per day and 13 ethanol plants with a combined production capacity of approximately 1.7 billion gallons per year. The petroleum refineries are located in the United States (U.S.), Canada and the United Kingdom (U.K.), and the ethanol plants are located in the Mid-Continent region of the U.S. Valero is also a joint venture partner in Diamond Green Diesel, which owns and operates a renewable diesel plant in Norco, Louisiana. Diamond Green Diesel is North America's largest biomass-based diesel plant. Valero sells its products in the wholesale rack or bulk markets in the U.S., Canada, the U.K., Ireland and Latin America. Approximately 7,000 outlets carry Valero's brand names. Please visit www.investorvalero.com for more information.

"As demand for low-carbon fuels expands globally, we continue to strengthen our long-term competitive advantage through innovation in renewables," said Martin Parrish, Senior Vice President – Alternative Energy and Project Development. "Carbon sequestration presents an environmentally responsible path to meet the world's growing demand for reliable and affordable energy while lowering emissions."

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