



Global Energy and Chemical Leaders Partner to Develop a Large-Scale, Low-Carbon Ammonia Production Export Project on the Houston Ship Channel

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TOKYO & PARIS & OKLAHOMA CITY & HOUSTON--(BUSINESS WIRE)--Oct. 3, 2023-- Tokyo-based INPEX Corporation (TSE: 1605) ("INPEX"), Paris-based Air Liquide Group ("Air Liquide"), Oklahoma City-based LSB Industries, Inc. (NYSE: LXU) ("LSB"), and Houston-based Vopak Moda Houston LLC ("Vopak Moda") have agreed to collaborate on the pre-FEED for the development of a large-scale, low-carbon ammonia production and export project on the Houston Ship Channel. If the development proceeds, the project's first phase is targeted to produce more than 1.1 million tonnes per annum (MTPA) of low-carbon ammonia by the end of 2027, with options for future expansions.

This press release features multimedia. View the full release here: <https://www.businesswire.com/news/home/20231002752346/en/>

The parties completed a feasibility study on the project earlier this year and the preferred facility's location on the Houston Ship Channel, the second largest petrochemical corridor in the world, leverages existing infrastructure assets. Vopak Moda has invested in storage and handling infrastructure for bulk liquid products and currently operates an ammonia terminal that includes storage tanks and a newbuild dock with multiple deep-water berths. The project also has access to utilities and would be near multiple pipelines that could supply raw materials like natural gas and water.

The project partners will bring complementary expertise to the production, operation, storage and export for the advancement of low-carbon ammonia production in the US:

- Air Liquide and INPEX would collaborate on low-carbon hydrogen production. Air Liquide would supply its AutoThermal Reforming (ATR) technology, an ideal solution for large-scale hydrogen production projects, combined with its proprietary carbon capture technology. The combination of ATR technology with carbon capture aims to capture at least 95% of direct CO₂ emissions from hydrogen production with at least 1.6 MTPA CO₂ captured and permanently sequestered from this project. Air Liquide would be responsible for onsite nitrogen and oxygen production, using its proprietary Air Separation Unit (ASU) technology.
- LSB and INPEX would collaborate on low-carbon ammonia production. LSB would lead the selection of the ammonia loop technology provider, the pre-FEED, and the engineering, procurement and construction of the facility. LSB would also be responsible for the day-to-day operation of the ammonia loop.
- INPEX and LSB would sell the low-carbon ammonia and finalize off-take agreements with the numerous parties that have expressed interest and could also further partner in the project. The majority of the product would be used for power generation in Asia with some volumes going to Europe and the US. INPEX, with stakes in both hydrogen and ammonia production, will likely be the largest investor in the overall project across the entire value chain, from production to export.
- Vopak Moda currently operates ammonia storage and handling infrastructure from its Very Large Gas Carriers (VLGC)-capable deepwater berth which is located in the deepest part of the Houston Ship Channel. Vopak Moda will maintain its ownership of the existing infrastructure and plans to build additional storage capacity as required to handle the low-carbon ammonia production of the proposed new facility.

INPEX Representative Director, President & CEO Takayuki Ueda said, "As we approach the achievement of our net zero target by 2050, the unveiling of our low carbon ammonia project in Texas, USA, stands as a momentous testament to INPEX's strong commitment to environmental leadership. This innovative endeavor marks a significant milestone to create a clean fuel supply chain for a sustainable future. By harnessing the power of cutting-edge technologies and collaborative partnerships with Air Liquide, LSB and Vopak Moda, we are accelerating the transition to a low-carbon world, while solidifying our position as a pioneer in energy transformation and a responsible global energy player."

"This project is well aligned with our strategy to become a leader in the global energy transition through the production of low-carbon ammonia," stated Mark Behrman, LSB Industries President and CEO. "As a long-standing, highly experienced nitrogen producer and developer of nitrogen production facilities, we are uniquely positioned to play a key role in a critical element of this project by overseeing the design, construction and operation of the ammonia loop. We are excited to be part of this consortium, comprised of best-in-class energy-related companies, and look forward to working with them as we make the vision of this world scale clean ammonia facility a reality."

Maria Ciliberti, Vopak President US and Canada, and Moda Midstream Co-Founder and CEO Jonathan Ackerman released a joint statement about the project: "The worldwide movement to decarbonize industry and transportation will drive strong global demand for low-carbon ammonia. Vopak Moda has invested in our talented, experienced workforce and state-of-the-art storage and marine infrastructure to be a leader in the emerging low-carbon ammonia export market. We believe the unbeatable combination of project expertise, technology, off-taker relationships and market credibility position Vopak Moda, Air Liquide, INPEX and LSB to be first movers for a new wave of low-carbon energy exports."

Adam Peters, CEO of Air Liquide North America, said: "Air Liquide is committed to working with its customers and industry partners to provide innovative and sustainable technology solutions to decarbonize traditional industrial processes, like ammonia production. We are proud to contribute

our hydrogen production expertise and portfolio of sustainable technologies in order to produce low-carbon hydrogen to support decarbonization of industrial markets. Together with our customers, we can reduce carbon emissions in industrial basins and advance toward a more sustainable future.”

About INPEX Corporation

INPEX CORPORATION is Japan’s largest exploration and production (E&P) company, and is currently involved in projects across multiple continents, including the Ichthys LNG Project in Australia as Operator. By thoroughly making its oil and gas business cleaner while expanding its 5 net zero business areas, INPEX aims to provide a stable supply of diverse and clean energy sources including oil, natural gas, hydrogen/ammonia and renewables as a pioneer in energy transformation. For more information, visit <https://www.inpex.co.jp/english/index.html>.

About Air Liquide Group

A world leader in gases, technologies and services for Industry and Health, Air Liquide is present in 73 countries with approximately 67,100 employees and serves more than 3.9 million customers and patients. Oxygen, nitrogen and hydrogen are essential small molecules for life, matter and energy. They embody Air Liquide’s scientific territory and have been at the core of the company’s activities since its creation in 1902. Taking action today while preparing for the future is at the heart of Air Liquide’s strategy. With ADVANCE, its strategic plan for 2025, the Group develops solutions contributing to climate and the energy transition—particularly with hydrogen—and takes action to progress in areas of healthcare, digital and high technologies.

About LSB Industries, Inc.

LSB Industries, Inc., headquartered in Oklahoma City, Oklahoma, is committed to playing a leadership role in the energy transition through the production of low and no carbon products that build, feed and power the world. The LSB team is dedicated to building a culture of excellence in customer experiences as we currently deliver essential products across the agricultural, industrial, and mining end markets and, in the future, the energy markets. The company manufactures ammonia and ammonia-related products at facilities in Cherokee, Alabama, El Dorado, Arkansas and Pryor, Oklahoma and operates a facility for a global chemical company in Baytown, Texas. Additional information about LSB can be found on our website at www.lsbindustries.com.

About Vopak Moda Houston LLC

Strategically located in Houston’s refining and petrochemical corridor and in close proximity to multiple third-party ammonia, hydrogen and nitrogen pipelines, the Vopak Moda terminal is the first greenfield terminal in the Port of Houston in more than a decade. Vopak Moda is the only existing waterborne ammonia terminal. The state-of-the-art facility is designed to berth VLGCs, as well as smaller vessels and barges. Vopak Moda is connected via pipeline to the Port of Houston petrochemical complex, the nation’s largest and world’s second-largest petrochemical complex. Jointly owned, developed, and operated by Royal Vopak and Moda Midstream, the facility combines the strengths of Vopak’s global network and experience with Moda’s successful track record of developing and operating premier independent logistics infrastructure. Vopak Moda is well positioned to become the premier hydrogen and low-carbon ammonia terminaling hub on the U.S. Gulf Coast.

Forward-Looking Statements

Statements in this release that are not historical are forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995. These forward-looking statements, which are subject to known and unknown risks, uncertainties and assumptions about us, may include projections of our future financial performance and anticipated performance based on our growth and other strategies and anticipated trends in our business. These statements are only predictions based on our current expectations and projections about future events. There are important factors that could cause our actual results, level of activity, performance or actual achievements to differ materially from the results, level of activity, performance or anticipated achievements expressed or implied by the forward-looking statements. Significant risks and uncertainties may relate to, but are not limited to, the ability to complete the development of the low-carbon hydrogen and ammonia production project in a cost effective manner or at all, business and market disruptions, market conditions and price volatility for our products and feedstocks, as well as global and regional economic downturns that adversely affect the demand for our end-use products; disruptions in production at our manufacturing facilities and other financial, economic, competitive, environmental, political, legal and regulatory factors. These and other risk factors are discussed in the Company’s filings with the Securities and Exchange Commission (SEC).

Moreover, we operate in a very competitive and rapidly changing environment. New risks and uncertainties emerge from time to time, and it is not possible for our management to predict all risks and uncertainties, nor can management assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements. Although we believe the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, level of activity, performance or achievements. Neither we nor any other person assumes responsibility for the accuracy or completeness of any of these forward-looking statements. You should not rely upon forward-looking statements as predictions of future events. Unless otherwise required by applicable laws, we undertake no obligation to update or revise any forward-looking statements, whether because of new information or future developments.

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