

---

Rotterdam/Singapore, 10/11 March 2024

## Air Liquide and Vopak sign MoU to collaborate on infrastructure for ammonia import, cracking and hydrogen distribution infrastructure in Singapore

Air Liquide and Vopak have signed a Memorandum of Understanding to collaborate on the development and operation of infrastructure for ammonia import, cracking and hydrogen distribution in Singapore.

Ammonia is considered as one of the low-carbon fuels for power generation and the maritime industry. As a hydrogen carrier, it is one of the most efficient ways to store and transport hydrogen. Leveraging on an established global supply chain and infrastructure for ammonia production, transportation and utilization, once transported, ammonia can be converted into hydrogen to contribute to the decarbonisation of industry and mobility.

As such, the parties will study and explore the joint development of low carbon ammonia supply chains in Singapore, including the potential development of ammonia cracking facilities, associated ammonia storage and handling infrastructure at Vopak's Banyan terminal, and the distribution of low-carbon hydrogen through a hydrogen pipeline network.

This collaboration aims to support Singapore's National Hydrogen Strategy, focusing at driving advanced hydrogen technologies with high commercial readiness to establish low-carbon hydrogen supply chains.

Zhang Xi, Southeast Asia Cluster Vice President, and Managing Director of Air Liquide Singapore said, "Air Liquide is committed to partnering with industry partners, such as Vopak, to offer innovative and sustainable solutions in support of Singapore's decarbonisation efforts. Air Liquide's industrial scale ammonia (NH<sub>3</sub>) cracking pilot plant is under construction in Belgium. We are proud to apply our expertise to crack low carbon ammonia into low-carbon hydrogen, aimed at reducing carbon emissions in industrial basins and hard to abate sectors, advancing towards a more sustainable future."

Rob Boudestijn, President of Vopak Singapore said, "Hydrogen and ammonia have the potential to significantly contribute to Singapore's transition towards a low-carbon economy. As Singapore gears up for receiving and handling ammonia for power generation and bunkering, cracking of ammonia into hydrogen presents an additional application to help the industry shift to lower carbon feedstock. We are excited about collaborating with Air Liquide to accelerate the adoption and commercialization of industrial ammonia cracking in Singapore."



### About Air Liquide

Air Liquide is a world leader in gases, technologies services for industry and healthcare. Present in 72 countries with 67,800 employees, the Group serves more than 4 million customers and patients. Oxygen, nitrogen and hydrogen are essential small molecules for life, matter and energy. They embody Air Liquide scientific territory and have been at the core of the Group's activities since its creation in 1902. Taking action today while preparing the future is at the heart of Air Liquide's strategy. With ADVANCE, its strategic plan for 2025, Air Liquide is targeting a global performance, combining financial and extra-financial dimensions. Positioned on new markets, the Group benefits from major assets such as its business model combining resilience and strength, its ability to innovate and its technological expertise. 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. Air Liquide's revenue amounted to more than 27.5 billion euros in 2023. Air Liquide is listed on the Euronext Paris stock exchange (compartmentA) and belongs to the CAC40, CAC40ESG, EUROSTOXX50, FTSE4Good and DJSI Europe indexes.

### **About Royal Vopak**

Royal Vopak helps the world flow forward. At ports around the world, we provide storage and infrastructure solutions for vital products that enrich everyday life. These products include liquids and gases that provide energy for homes and businesses, chemicals for manufacturing products, and edible oils for cooking. For all of these, our worldwide network of terminals supports the global flow of supply and demand. For more than 400 years, Vopak has been at the forefront of fundamental transformations. With a focus on safety, reliability, and efficiency, we create new connections and opportunities that drive progress. Now more than ever, our talented people are applying this mindset to support the energy transition. Together with our partners and customers, we are accelerating the development of infrastructure solutions for hydrogen, ammonia, CO<sub>2</sub>, long-duration energy storage, and low-carbon fuels & feedstocks – paving the way to a more sustainable future. Vopak is listed on the Euronext Amsterdam and is headquartered in Rotterdam, the Netherlands. For more information, please visit [www.vopak.com](http://www.vopak.com)

### **About Vopak in Singapore**

Vopak Terminals Singapore is a joint venture between Royal Vopak (69.5%) and PSA International Pte Ltd (30.5%). With over 40 years of heritage locally, Vopak Terminals Singapore is experienced and dedicated in providing storage, handling and transshipment solutions for oil, gas and chemical industries. It operates five terminals with a combined storage capacity of more than 3 million cbm.

### **About Vopak's Banyan Terminal**

With a storage capacity of close to 1.5 million cbm, Vopak Banyan terminal is an integrated oil, chemical and gas hybrid storage terminal. The terminal is strategically located on Jurong Island.

**Capacity:** 1,452,163 cbm

**Tanks:** 112

**Tank size:** From 2,600 to 25,000 cbm

**Access:** Barge, Pipeline, Truck, Vessel

**Berths for vessels:** 7

**Certification:** ISCC+, ISCC EU

**Terminal type:** Import-Export-Distribution, Hub



**For more information please contact:**

**Air Liquide Press**

Ivan Cheong - Senior Director, Corporate Communications, Asia Pacific [ivan.cheong@airliquide.com](mailto:ivan.cheong@airliquide.com)

**Vopak Press**

Alexis Oh - Regional Communications Manager (Asia & Middle East)- [alexis.oh@vopak.com](mailto:alexis.oh@vopak.com)

Liesbeth Lans - Manager External Communication - [global.communication@vopak.com](mailto:global.communication@vopak.com)

**Vopak Analysts and Investors**

Fatjona Topciu - Head of Investor Relations- [investor.relations@vopak.com](mailto:investor.relations@vopak.com)