

## **Kick-off to decarbonizing ammonia production: thyssenkrupp awarded green hydrogen plant by CF Industries**

- **20 MW green hydrogen installation to kick-off the decarbonization of the world's largest ammonia production facility**
- **CF Industries will start production of 20,000 tons per year of green ammonia by 2023**

thyssenkrupp has entered into an engineering and supply contract with CF Industries to deliver a green hydrogen plant for the production of green ammonia at the Donaldsonville manufacturing complex in Louisiana. Under this contract thyssenkrupp will engineer and deliver a 20 MW hydrogen production unit based on their alkaline water electrolysis as well as all necessary utilities.

The plant will utilize renewable energy from the grid to produce green hydrogen which then will be converted to 20,000 tons per year of green ammonia in CF Industries existing ammonia plants at the Donaldsonville, LA site. Green ammonia can be used as a highly efficient storage and transport medium for renewable energy and also directly as a clean fuel, e.g. in maritime transportation. Engineering and procurement activities have been initiated; the start of production is scheduled for 2023.

### **Strong project footprint and organizational set-up in North America**

With six ammonia plants and several fertilizer plants, the CF Industries' site in Donaldsonville is the largest ammonia manufacturing complex worldwide. The largest ammonia plant at this site has also been delivered by thyssenkrupp and is based on the proven uhde® ammonia process. "Following the recent delivery of two world-scale ammonia and fertilizer plants to CF Industries we are honored to have now been selected by our long-term customer to contribute to the decarbonization of their operations and to support them in their mission to provide clean energy to feed and fuel the world sustainably", says Dennis Lippmann, President Chemical & Process Technologies, thyssenkrupp Industrial Solutions USA.

As a globally renowned EPC specialist for electrochemical plants, thyssenkrupp is a leading supplier of electrolysis equipment, solutions and services – also with a strong footprint in North America. With a total capacity of over >1.4 GW realized in electrochemical projects over the last 30 years (which equates to >290,000 Nm<sup>3</sup>/h of hydrogen as byproduct), North America is one of the company's key regions. Dr. Christoph Noeres, Head of Green Hydrogen at thyssenkrupp Uhde Chlorine Engineers, adds: "This second water electrolysis success

after the recent announcement of an installation in Canada shows the region's leading role in making the green hydrogen economy a real deal. With our well-established local set-up, we are best prepared to serve the American market which is also key to delivering customized service solutions throughout the entire plant life-cycle.”

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**About us:**

**thyssenkrupp Industrial Solutions** is a leading partner for the engineering, construction and service of industrial plants and systems. Based on more than 200 years of experience we supply tailored, turnkey plants and components for customers in the chemical, fertilizer, cement, mining and steel industries. **thyssenkrupp Uhde Chlorine Engineers**, a joint venture between thyssenkrupp Industrial Solutions AG and Industrie De Nora, offers world-leading technologies for high-efficiency electrolysis plants. The company has already successfully installed more than 600 projects and electrochemical plants worldwide, with a total capacity of over 10 gigawatts. With its water electrolysis technology for the production of green hydrogen, the associated product division **Green Hydrogen** offers an innovative solution for industrial-scale applications. Together with thyssenkrupp's Chemical and Process Technologies business unit, thyssenkrupp covers the entire value chain for green chemicals, from hydrogen to ammonia, methanol and synthetic natural gas – a major step towards a climate-neutral industry.

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