Press release

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Siemens Energy partners with Linde Engineering to accelerate decarbonization efforts in the petrochemical sector

The downstream oil and gas industry is under intense pressure to improve efficiency, reduce greenhouse gas (GHG) emissions, comply with strict environmental regulations, and demonstrate that it can be part of a sustainable future. At the same time, plant operators face the ever-present challenge of lowering costs and maintaining profitable operations.

To help the industry meet these demands, Siemens Energy and Linde Engineering have entered into a strategic partnership. As part of the collaboration agreement, the two companies will leverage their complementary portfolios and competencies to investigate, develop, and optimize technology and equipment packages to enhance the sustainability and performance of petrochemical facilities (brownfields and greenfields).

The companies will jointly conduct studies that explore how Siemens Energy's and Linde Engineering's technologies can be combined to facilitate the decarbonization of petrochemical plants through emissions reductions and increases in energy efficiency – for example, by optimizing the consumption of power and steam.

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Particular areas that will be evaluated include, but are not limited to, the use of Siemens Energy's products, including gas turbines, steam turbines, compressors, and generators with Linde Engineering's steam cracker technology and related processes for olefin production, purification, and separation. The companies will also explore how renewable technologies and energy storage can be leveraged to support customers' decarbonization initiatives. Other key performance areas that will be targeted for improvement include plant availability and uptime, maintenance, OPEX and CAPEX, and regulatory compliance.

"The core competencies and technology portfolios of Siemens Energy and Linde Engineering are highly complementary," said Thorbjoern Fors, Executive Vice President for Siemens Energy Industrial Applications. "Our experience in designing and building low-emissions energy systems, coupled with Linde Engineering's expertise in steam cracker technology and other downstream processes, will enable us to unlock tremendous value for petrochemical customers, who are under intense pressure to reduce costs and decarbonize."

"The partnership builds on the longstanding and trustful business relationship that Siemens and Linde Engineering have maintained for decades," said John van der Velden, Senior Vice President Global Sales & Technology at Linde Engineering. "It represents a key step in helping the industry drive toward a more sustainable, profitable future and in offering our customers a more efficient solution for ethylene production."

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Above: *Decarbonization requires partnership; Linde Engineering and Siemens Energy will explore how renewable technologies and energy storage can be leveraged to support customers' decarbonization initiatives.*



Above: *STC-SH propylene turbo compressor for an ethylene plant.*

This press release and a press pictures are available at https://bit.ly/3elCoBB

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Siemens Energy is one of the world's leading energy technology companies. The company works with its customers and partners on energy systems for the future, thus supporting the transition to a more sustainable world. With its portfolio of products, solutions and services, Siemens Energy covers almost the entire energy value chain – from power generation and transmission to storage. The portfolio includes conventional and renewable energy technology, such as gas and steam turbines, hybrid power plants operated with hydrogen, and power generators and transformers. More than 50 percent of the portfolio has already been decarbonized. A majority stake in the listed company Siemens Gamesa Renewable Energy (SGRE) makes Siemens Energy a global market leader for renewable energies. An estimated one-sixth of the electricity generated worldwide is based on technologies from Siemens Energy. Siemens Energy employs 91,000 people worldwide in more than 90 countries and generated revenue of around €29 billion in fiscal year 2019. www.siemens-energy.com.

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