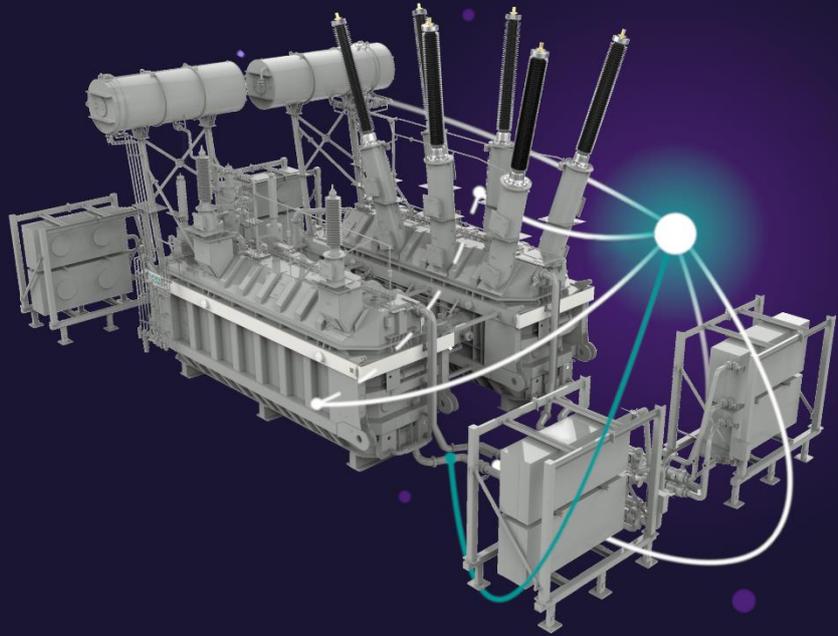


# Next level of ecofriendliness

World's first phase-shifting  
transformer with ester  
insulation liquid



[siemens-energy.com/transformers](https://www.siemens-energy.com/transformers)

## 1 Siemens Energy introduces the next level of eco-friendly transformer technology

In this way, Siemens Energy is underpinning its status as the most innovative supplier of power transformers. Phase shifters are special transformers. Phase shifters are special transformers that enable cost-effective load flow management and grid asset optimization in complex grids.

With generation dispatch and transmission grid load becoming increasingly volatile, the demand for phase shifters continues to grow, as circuit overloads need to be reduced without compromising grid stability and flexibility. The need for safe and reliable grid operation is especially high in densely populated metropolitan areas for the overall stability of the grid. However, transformers that are to be installed in such areas need to be extremely quiet and have to meet particularly high requirements in terms of reliability and eco-friendliness to protect the environment in the unlikely case of a failure.

No surprise, then, that Siemens Energy, the supplier with most references worldwide in terms of alternative insulation liquids for power transformers, has now received the order for the world's first phase shifter that is filled with ester oil instead of mineral oil.

The organic-based, nontoxic insulating liquid is biodegradable with an extremely high flash point. This enables the cost-efficient installation of the phase shifter in the direct vicinity of residential and commercial buildings.

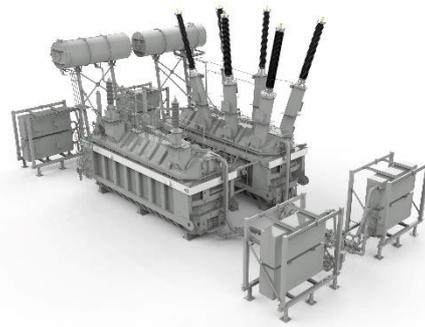
The 138/138-kV phase shifter now being manufactured by Siemens Energy will be installed in a metropolitan area on the East Coast of the US to help the local utility control the power flow and rapidly adjust to changes in the power demand in the system. The 60 Hz 300-MVA unit will feature a  $\pm 25$ -degrees phase angle and will have two active parts in one tank.

The entire design ensures a high overload rating for safe and reliable operation, and a maximum sound pressure level of only 50.3 dBA at 300 MVA including the noise of the windings and pumps, which is the noise level of a standard dishwasher, enables operation in residential neighborhoods.

The phase-shifting transformer will be delivered to the US in the fall and can be installed in record time thanks to its innovative plug-in bushings – a result of Siemens Energy’s modular transformer concept called Pretact®.

This unique concept comprises numerous features that help customers save considerable time and money during the installation and operation of Siemens Energy transformers, among them motor-operated valves to shut off the radiator banks in case of an emergency, flexi-components in the mechanical installation, and plug-in wiring connections. These advantages will also tremendously increase health and safety standards.

The new, eco-friendly phase shifter that boasts all advantages of the Pretact® concept emphasizes Siemens Energy’s expertise and experience in designing and building outstandingly efficient and reliable transformers.



Standard phase-shifting transformer

“One of our core aims is to provide versatile solutions that help our customers minimize their efforts in operating sustainable and eco-friendly solutions,” says Christian Ettl, project manager at Siemens Energy.

#### Published by

Siemens Energy Global GmbH & Co. KG  
Transmission  
Freyeslebenstr. 1  
91058 Erlangen  
Germany

Article No. PTNP-T10009-00-7600

For more information, please visit our website:  
[siemens-energy.com/transformers](https://www.siemens-energy.com/transformers)

© Siemens Energy, 2021

Siemens Energy is a trademark licensed by Siemens AG.

#### For the U.S. published by

Siemens Energy, Inc  
Transmission  
4601 Six Forks Road  
Raleigh, NC 27609  
USA

Subject to changes and errors. The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract. All product designations may be trademarks or product names of Siemens Energy Global GmbH & Co. KG or other companies whose use by third parties for their own purposes could violate the rights of the owners.