



GE introduces the first Green Transformer for rail transportation

- *A power transformer with completely bio- degradable ester filling*
- *Provides customers with cost saving opportunities*
- *Part of GE's Grid Solutions environmental policy to design our products with minimized environmental impact*

PARIS, May 24 2016 – Rail, one of the lower carbon producing means of transportation just got cleaner. GE (NYSE: [GE](#)) recently introduced the first environmentally-friendly transformer designed for railway applications in Germany.

The European Union plans to decarbonize the transport system as part of their efforts to reduce greenhouse gas emissions by [60 percent](#) through to 2050. This is achieved by minimizing its environmental impact through reducing energy consumption, using cleaner energy, as well as making better or more efficient use of modern transport infrastructure and services. Further electrification of railway tracks could contribute to this reduction of carbon emissions. GE's Green Transformer for rail application is designed to withstand mechanical and electrical stresses caused by fluctuating load and frequent short circuit conditions created by passing trains.

Manufactured and installed in Germany, this transformer uses a completely bio-degradable ester filling in replacement of the conventional mineral oil. This insulating liquid is biologically degradable, low flammable and offers a higher overload performance. Due to the liquid's groundwater neutrality, customers have the option of omitting additional oil pits under the transformer, a viable cost advantage.

The ester filling is not the only feature that makes this transformer environmentally friendly. GE's Green Transformer's ambition is to achieve greater noise reduction compared to conventional transformers and an extended lifetime due to its improved moisture absorption. The transformer also targets higher efficiency with lower loss¹, further reducing its carbon footprint. The optimized winding design and the application of GE's advanced expertise in computational fluid dynamics² (CFD) aims at enhancing efficiency. GE's patented hermetically sealed tank design encases the transformer in an air tight tank which is intended to lower maintenance and create another cost saving advantage for customers. The transformer successfully completed the short-circuit test by the Dutch Institute KEMA³ based in Arnhem, a prerequisite for the delivery and its subsequent installation in Germany.

Hakan Karadogan, General Manager for Power Transformers at GE's Grid Solutions said, *"There is a developing trend towards environmentally friendly technologies in all industries. At GE, we continue to develop technology that is not just clean but equally or more efficient than its counterparts. GE's Green Transformer is just one of the many innovative solutions designed to help our customers meet their sustainability targets."*

¹ Transformer losses are produced by the electrical current flowing in the coils and the magnetic field alternating in the core

² Fluid mechanics using numerical analysis and algorithms to solve and analyze problems involving the flow of fluids

³ KEMA: Keuring van Elektrotechnische Materialen te Arnhem (en: Inspection of electrical operating equipment in Arnhem)

About GE

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GE Contacts

Julie Khoo
Media Relations
GE's Grid Solutions
+33-6-98-86-83-04
Grid.MediaRelations@ge.com