EU affirms confidence in GE's g³ technology by co-funding development of its 245 kV SF?-free g³ gas-insulated substation

- *EU's LIFE program recognizes potential of GE Renewable Energy's g^3 insulating and switching gas as an alternative to sulfur hexafluoride (SF_6) to help significantly cut global greenhouse gas emissions*
- *This is the third GE g^3 gas product development to be co-funded by the EU Commission within four years*
- *New 245 kV g^3 gas-insulated substation (GIS) for both onshore and offshore application will complete GE's SF_6-free GIS range particularly for the European electrical grids, and help utilities get ready for stricter fluorinated (F)-gas regulations*

Paris, FRANCE – August 31, 2022 - The European Commission's LIFE climate action program has awarded GE Renewable Energy's Grid Solutions business (NYSE-GE) €3 million to fund the realization of a full SF_6-free 245 kilovolts (kV) g^3 gas-insulated substation (GIS) for onshore and offshore applications.

This third GE g^3 (pronounced "g" cubed) gas project co-funding reflects the EU Commission's commitment to accelerate the decarbonization of Europe's electrical grids and prepare utilities for the EU's stricter fluorinated (F)-gas regulation, which aims to cut F-gas emissions two-thirds by 2030. *GE's LIFE SF_6-FREE GIS* project addresses the urgent need for reducing the use of SF_6, a powerful greenhouse gas currently prevalent in high voltage equipment, with GE's game-changing g^3 gas technology. g^3 equipment feature the same high performance and compact size as traditional SF_6 products with a 99% reduced global warming potential.

"The 245 kV voltage is a key standard voltage level for the European high voltage grid," explains Eric Chaussin, GE Renewable Energy's Grid Solutions High Voltage Products Leader. "Having SF_6-free gas-insulated substations at 245 kV will be crucial to support the decarbonization of the high voltage grid," Chaussin said. "This new g^3 245 kV GIS will play an important role in meeting demand for compact SF_6 -free substations in urban areas, as well as offshore projects, and enable the extension of the network and replacement of aging assets without this potent greenhouse gas," he added.

Supporting this point, a recent EU Commission report concluded that fluoronitrile-based gas mixtures – such as g^3 gas - may be the only insulating and switching gas alternative to SF_6 when space is a constraint.

GE's *LIFE SF_6-FREE GIS* project also addresses digitalization, which is another key challenge for the European high voltage grid. A grid becomes more complex when introducing intermittent sources, making proactive load balancing a key success factor. By integrating digital sensors in the primary equipment, the project is providing efficient data for grid operators moving toward more renewable sources. This becomes central to building a more resilient and robust grid. In addition, the replacement of conventional instrument transformers by a digital solution will deliver significant raw material savings,

mainly in terms of copper and steel usage. This will not only limit the resource depletion but also further reduce the switchgear carbon footprint. The full benefits will be evidenced by a life cycle assessment (LCA) as part of the project.

Today, more than 30 leading electrical utilities have already adopted GE's g^3 products for their high voltage networks. Their adoption has the effect of eliminating the potential addition of more than one million tons of CO_2 equivalent to the grid. That is equal to removing about 476,000 petrol cars from the road for one year.

The new 245 kV g^3 GIS enhances GE's SF_6-free GIS range from 72.5 kV to 420 kV in 2024. GE's g^3 products are currently available for live-tank circuit-breakers and gas-insulated substations up to 145 kV, as well as dual gas-insulated lines to 420 kV. At this week's CIGRE Session 2022 in Paris, GE is exhibiting the world's first SF_6-free interrupter for protecting 420 kV 63 kA networks.

For more information on GE's high-voltage g^3 substation equipment and product roadmap, visit our website.

###

About GE's Grid Solutions
Grid Solutions, a GE Renewable Energy business, serves customers globally with over 12,000 employees. Grid Solutions provides power utilities and industries worldwide with equipment, systems and services to bring power reliably and efficiently from the point of generation to end power consumers. Grid Solutions is focused on addressing the challenges of the energy transition by enabling the safe and reliable connection of renewable and distributed energy resources to the grid. We electrify the world with advanced grid technologies and accelerate the energy transition. For more about GE's Grid Solutions, visit https://www.gegridsolutions.com.

More about g^3 - SF_6 Free Solutions (gegridsolutions.com)
More about g^3 development, GE's fluoronitrile based gas mixture: In search of an SF_6 replacement | Think Grid (think-grid.org)

https://www.gevernova.com/
GE Vernova

Media inquiries

Allison J. Cohen

GE Vernova | Communications, Offshore Wind

allison.j.cohen@ge.com
+972 54 7299742