**SF₆ IS A GREENHOUSE GAS WITH A STRONG GLOBAL WARMING POTENTIAL**

- 9/10 of the warmest years on record occurred since 2000. Greenhouse Gases (GHGs) are the root cause of the „Greenhouse Effect“, causing climate change throughout the world.

- SF₆ contributes 23,500 times more to the greenhouse effect than CO₂.
- 80% of all SF₆ used is in the transmission industry.
- 3,200 years is the number of years SF₆ remains in the atmosphere.
- 10,000 tons of SF₆ are installed yearly, + 20% is the SF₆ concentration in the last 5 years.

**THE g³ REVOLUTION**

- **g³** is a revolutionary gas for the electrical transmission industry, offering the same technical performances as SF₆ with an environmental impact reduced by more than 99%.

- **1st EVER ALTERNATIVE to SF₆ for high voltage apparatus**

- **g³** products operate under the same ambient conditions and temperature ranges as state-of-the-art SF₆ products. (-25°C and -30°C).

- **Saving of**
  - Replacing 1 kg of SF₆ with ~½ kg of g³
  - Saving of 16 CARS running one year (10,000 km each)
  - Saving of 1 CAR circling the Earth 4 times

- **Same dimensions, same technical performance and safety with a drastically reduced impact of gas releases to atmosphere**

**THE BENEFITS OF g³ OVER SF₆**

- **<1%** Environmental impact of g³ vs SF₆

- Utilities can adopt best practices in terms of environment sustainability

- Utilities can qualify for tax reduction or incentives related to greenhouse gas emissions reduction
The g³ technology and related applications are part of the GE Ecomagination portfolio. Ecomagination is GE’s growth strategy to enhance resource productivity and reduce environmental impact.

**GLOBAL TREND TOWARDS MORE STRINGENT SUSTAINABILITY STANDARDS**

40% of utilities expect a

☐ Tax on SF₆

Or an

☐ Incentive for alternative gases

in 5 years

---|---|---|---|---|---|---
SF₆ becomes the main insulating medium for high voltage | SF₆ is listed in the Kyoto protocol as a Greenhouse Gas | EU F-gas regulation | COP 15: limit global warming to 2°C and reduce GHG emissions by 40 to 70% by 2050 (vs. 2010) | New EU F-Gas regulation: F-gas emissions have to be cut by two-thirds by 2030 (vs. 2014) | COP 21 Paris, 196 countries commit to reduce their GHG emissions through their intended "nationally determined contributions" | EU target to cut GHG Emissions: By 2020: -20% By 2030: -40% By 2040: -60% By 2050: -80%

More and more stringent environmental regulations are likely to speed up the g³ adoption

**ADOPTION OF g³: SOME LEADING UTILITIES**

11 LEADING UTILITIES have decided to install equipment with g³

- **UK/SCOTLAND**
  - 3 sites - 483 meters
  - g³ Gas-Insulated Lines
  - 420 kV, -25 °C
  - Example with 100 metres of 3-phase Gas-Insulated Line (GIL), considering gas emissions (average 0.4% p.a.) over 40 years
  - GIL filled with SF₆: 6,157 tons equivalent CO₂
  - GIL filled with g³: 102 tons equivalent CO₂

- **GENMARK**
  - 8 sites - 51 Bays
  - g³ Gas-Insulated Substations
  - 145 kV, -25 °C
  - Example with a carbon tax at 25€/ton of CO₂

- **GERMANY**
  - 2 sites - 6 CTs
  - g³ AIS Current Transformers
  - 245 kV, -30 °C
  - Example with a carbon tax at 25€/ton of CO₂

- **NETHERLANDS**
  - 2 sites - 10 Bays
  - g³ GIS
  - 245 kV, -30 °C
  - Example with a carbon tax at 25€/ton of CO₂

- **SOUTH KOREA**
  - 3 sites - 172 Bays
  - g³ GIS
  - 245 kV, -30 °C
  - Example with a carbon tax at 25€/ton of CO₂

- **FRANCE**
  - 2 sites - 6 CTs
  - g³ AIS Current Transformers
  - 245 kV, -30 °C
  - Example with a carbon tax at 25€/ton of CO₂

- **SWITZERLAND**
  - 2 sites - 6 CTs
  - g³ AIS Current Transformers
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For more information, please contact
GE Power
Grid Solutions
Worldwide Contact Center
Web: www.GEgridSolutions.com/contact
Phone: +44(0) 1 785 250 070

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