



GE Renewable Energy  
Grid Solutions



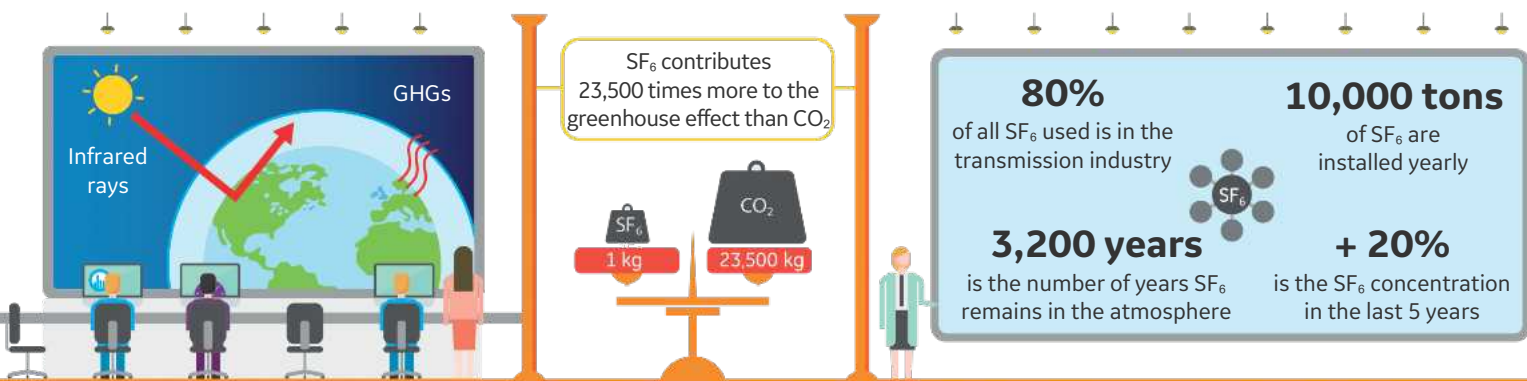
$g^3$  is a revolutionary gas for the electrical transmission industry, offering the same technical performances as  $SF_6$  with a **global warming potential reduced by more than 99%**

## $SF_6$ IS A GREENHOUSE GAS WITH A STRONG GLOBAL WARMING POTENTIAL

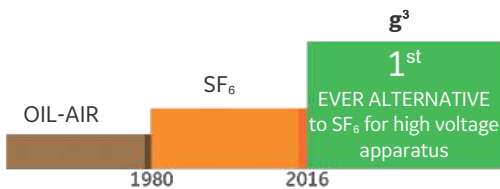


19/20\*

of the warmest years on record occurred since 2001. Greenhouse Gases (GHGs) are the root cause of the „Greenhouse Effect“, causing climate change throughout the world.



## THE $g^3$ REVOLUTION



Replacing 1 kg of  $SF_6$  with  $\sim 1/2$  kg of  $g^3$

Saving of  
**16 CARS**

running one year (10,000 km each)

Saving of  
**1 CAR**

circling the Earth 4 times



$g^3$  products operate under the same ambient conditions and temperature ranges as state-of-the-art  $SF_6$  products. (-25°C and -30°C)

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

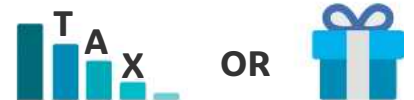
## THE BENEFITS OF $g^3$ OVER $SF_6$



Environmental impact of  $g^3$  vs  $SF_6$



Utilities can **adopt best practices** in terms of environment sustainability



Utilities may qualify for **tax reduction or incentives** related to greenhouse gas emissions reduction

\* Source : <https://climate.nasa.gov/vital-signs/global-temperature/>



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g<sup>3</sup> is an insulating gas mixture using  
Novac 4710™ Insulating Gases from 3M



g<sup>3</sup> supply, g<sup>3</sup> handling and g<sup>3</sup> monitoring  
solutions are available with our partners



## GLOBAL TREND TOWARDS MORE STRINGENT SUSTAINABILITY STANDARDS

SF<sub>6</sub> becomes the main insulating  
medium for high voltage

GE's cooperation  
with 3M begins

g<sup>3</sup> gas  
disclosed

First g<sup>3</sup>  
products

First  
energizations



## ADOPTION OF g<sup>3</sup>: SOME LEADING UTILITIES

**23** LEADING UTILITIES  
have decided to  
test equipment with g<sup>3</sup>



**40%** UTILITIES  
are expecting tax on SF<sub>6</sub> or  
an incentive for alternative  
gases in the next 5 years



g<sup>3</sup> Gas-Insulated Substations  
145 kV, -25 °C  
**16 sites - 100+ Bays**

g<sup>3</sup> Gas-Insulated Substations  
420 kV, -25 °C  
**1 site - 9 bays**

g<sup>3</sup> Gas-Insulated Lines  
420 kV, -25 °C/-30 °C  
**8 sites - 5000+ meters**

g<sup>3</sup> AIS Live Tank CB  
145 kV, -30 °C  
**5 sites - 14 circuit breakers**

**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 SF<sub>6</sub>  
**6,157 tons**  
equivalent CO<sub>2</sub>



GIL filled with g<sup>3</sup>  
**102 tons**  
equivalent CO<sub>2</sub>

Example with a carbon tax  
at 25€/ton of CO<sub>2</sub>

**TAX SAVING**

**150 k€**

20-30% of CAPEX



For more information, please contact  
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