



# GRID SOLUTIONS



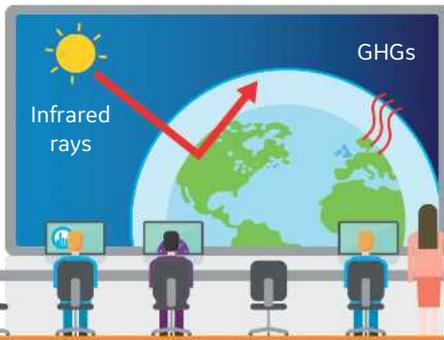
$g^3$  is a revolutionary gas for the electrical transmission industry, offering the same technical performances as  $SF_6$  with an **environmental impact reduced by 99%**

## $SF_6$ 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.



$SF_6$  contributes 23,500 times more to the greenhouse effect than  $CO_2$



80% of all  $SF_6$  used is in the transmission industry

10,000 tons of  $SF_6$  are installed yearly

3,200 years is the number of years  $SF_6$  remains in the atmosphere

+ 20% is the  $SF_6$  concentration in the last 5 years

## 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 $SF_6$

1%

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



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



OR



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



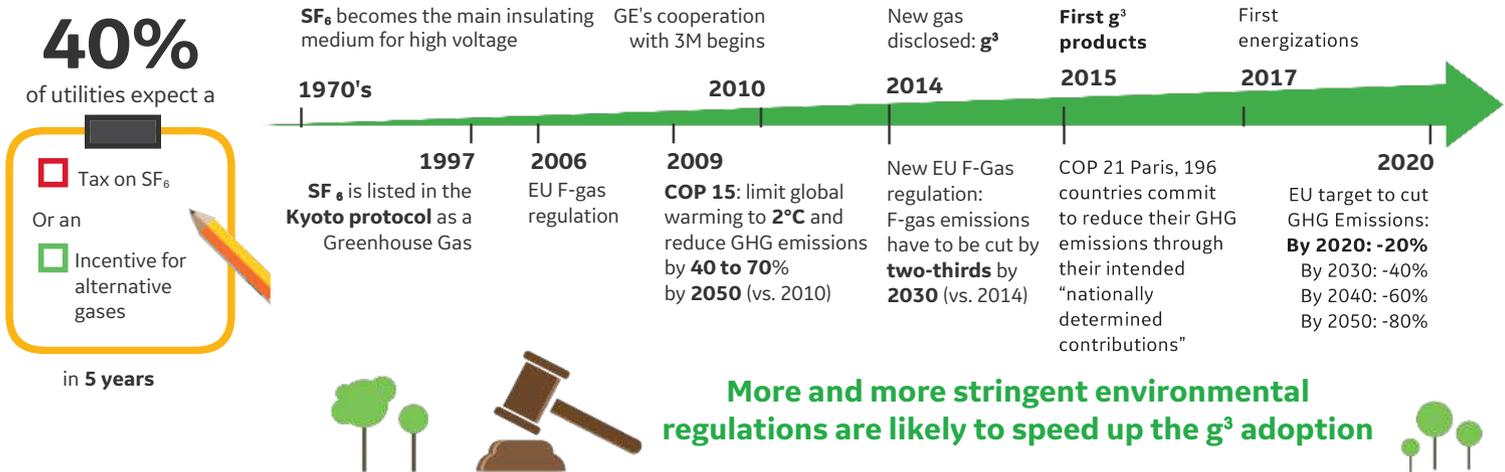
The g<sup>3</sup> technology and related applications are part of the GE **Ecomagination** portfolio. Ecomagination is GE's growth strategy to enhance resource productivity and reduce environmental impact.



g<sup>3</sup> is an insulating gas mixture using Novac™ Dielectric Fluids 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



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

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



g<sup>3</sup> Gas-Insulated Lines  
420 kV, -25 °C  
**2 sites - 407 meters**

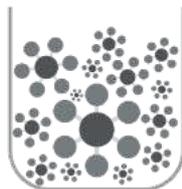
g<sup>3</sup> Gas-Insulated Substation  
145 kV, -25 °C  
**6 sites - 23 Bays**

g<sup>3</sup> AIS Current Transformers  
245 kV, -30 °C  
**2 sites - 6 CTs**

**2 MANUFACTURERS** are developing eco-friendly power products using g<sup>3</sup>

**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

