

***“QUANTOZONE”* is powerful hybrid technology to protect people from coronaviruses and many other harmful pathogens.**

**A hybrid of healthy lighting energy LED arrays with ozone generator is new unique solution for killing pathogenic microorganisms in homes, vehicles, buses, trains, workplaces, public and recreational buildings and other facilities.**



**GLOBAL WARMING SOLUTIONS, INC.**

# What is “QUANTOZONE”?

- The name “QUANTOZONE” derived from two words- **Quanta** and **Ozone** because the technology deploys two natural factors- quanta of HLE (Healthy Lighting Energy) with or without ultraviolet light and ozone gas for killing viruses, harmful bacteria and fungi/molds in air, on any surfaces and even inside various soft materials, food and perishable products.
- No medical event in recent history has made a bigger impact on global health and the economy, than Coronavirus, and the COVID-19 disease. Governments, Industry and Citizens are united in trying to slow the spread of COVID-19, to give health services time to prepare for the explosion in the demand for care. Sanitizing our homes, workplaces and public transports and spaces is a key tactic in the fight against Coronavirus, to stop the spread of COVID-19.
- Several well know efficient methods of sterilization deploy ultraviolet and ozone. They are commonly used in hospitals to sanitize equipment and significantly reduce or eliminate the spread of harmful microorganisms, however they are not safe to humans and usually not efficient in killing microbes in a volume of any treated materials like fabrics, clothing, upholstery, wood, etc.



# What is “QUANTOZONE”?

- ❑ *QUANTOZONE* is much safer and more efficient compare to all existing methods of microbial control.
- ❑ HLE is able to penetrate deep to a treating materials - up to 10 cm or 4 inches compared to ultraviolet light which kills microbes only on surface.
- ❑ Synergistic and additive effects between HLE, ultraviolet and ozone substantially increases the killing rates in the treatments and make every treatment the most efficient and economic related to energy resources and amount (volume) of ozone production and usage.
- ❑ ON/OFF switcher of *QUANTOZONE* units allows to select an optimal and safe treatment cycles depends of a presence of personnel/humans and types of microbial contaminations, treated volumes, environment and other factors.
- ❑ An optional software program allows a daily and hourly setup of the treatment programs depends of customers needs and WiFi control of the programs



## What is the healthy lighting energy (HLE) of *QUANTOZONE* ?

- After decades of research going back to the 1990's, coupled with trial and error testing, a general discovery was made that validated that the low end and the high end of the solar spectrum adversely affected bacteria and fungi. The low end included blue light and violet light and ultraviolet light. It was known that ultraviolet (UV-C) was very deadly to bacteria and fungi but also harmful to humans. At the high end of the spectrum, elements of invisible light beyond red color, which are invisible to humans, also killed bacteria and these elements were safe for humans and had more penetrating capacity than blue or violet light. These findings were not utilized much at the time because the only way to deliver them was with lasers and they were closely regulated and expensive.
- About twenty years ago, Dr. Vladimir Vasilenko, CEO of Global Warming Solutions Inc. and a group of scientists discovered that very specific wavelengths and their combinations of Healthy Lighting Energy-HLE are able to control pathogenic microorganisms in plants, animals, humans and maintain their own microbial defenses longer.



## The main features of the HLE- healthy lighting energy

- The HLE energy breaks down the cell walls, membranes and certain enzymes of bacteria and fungi thereby eliminating their ability to reproduce. Here is a basic science conclusion from Dr. Vladimir Vasilenko: “Our HLE LED light can reduce substantially a risk of appearance and reappearance of many pathogens in an environment. The HLE decreases this risk by killing pathogens almost everywhere, so there is much less chance for viral, bacterial or fungal diseases to “attack” people in any environment”
- **IMPORTANT:** The low-energy quanta of HLE does not cause a molecular ionization responsible for damage of DNA and mutations. Non-ionizing radiation refers to any type of electromagnetic radiation that does not carry enough energy per quantum (photon energy) to ionize atoms or molecules—that is, to completely remove an electron from an atom or molecule. Also, the average power level of HLE that is deployed in HLE illuminators is lower and much safer compared to direct sunlight.



# Ozone sterilization proven to kill sars- covid virus

Coronaviruses are classified as “enveloped viruses”, which are typically more susceptible to “Physico-chemical challenges”. In other words, they don’t like being exposed to ozone. Ozone destroys this type of virus by breaking through the outer shell into the core, resulting in damage to the viral RNA. Ozone can also damage the outer shell of the virus in a process called oxidation.

Put simply, exposing Coronaviruses to sufficient ozone dose (ppm x time) can result in them being 99% damaged or destroyed.

- During the SARS epidemic of 2003, ozone sterilization was successfully used to purify environments infected with the deadly Coronavirus, SARS-CoV-1, the virus which causes the SARS disease.
- As SARS-Cov-1 is also a member of the Coronavirus family, it is highly likely that ozone sterilization would be effective at killing SARS-CoV-2, the Coronavirus which causes the COVID-19 disease.



**QUANTOZONE' illuminator, 12-leds wide angle (90 degree) IP67 waterproof LED array with power adapter for killing germs at homes, workspaces and other premises**



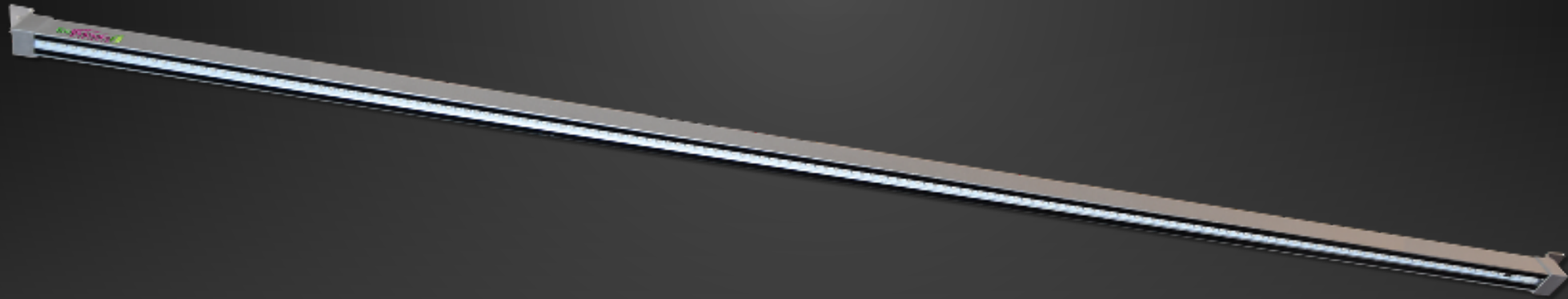
***QUANTOZONE* high power (50W) 48-leds lamp for killing germs at workspaces, public transports and other premises with a large areas (3000 square ft and more)**



- **Beam Angle:15/30/45/60/90/120 Degree (Customized)**
- **Housing Color:Gray / Black (Customized)**
- **Power Plug:(Customized)**
- **Power Consumption:50Watts**
- **Power Input: AC85~265V**



**QUANTOZONE** 4 Ft-long (122 cm) 162-leds bar for killing microbes at workspaces, public transports (buses, train wagons, airplanes and ships), supermarkets and other premises to treat large (150 cm x 40-60 cm) areas with a minimal power consumption (22 Watts only)



# QUANTOZONE generators of ozone



USA Plug



EU Plug



## Ozone Generator

### Air Sterilizer Purifier

Silent < 30db

Air purifier air volume: 50m<sup>3</sup>/h

Application area: 21m<sup>2</sup>-30m<sup>2</sup>

99.8% purification



Smokers



Cooking smells



Dust



Pollen



Pets Dander



Bacteria



~~COVID19~~



GLOBAL WARMING SOLUTIONS, INC.

# *QUANTOZONE* HYBRID LED RAYS AND OZONE GENERATION SYSTEM:

## **The system consists of four elements:**

1. LED Lamp or panel as a source of HLE;
2. Compact ozone generator attached to the HLE lighting unit
3. UV LED Lamp
4. (Optional) Computer terminal/software unit with a digital camera for monitoring of human presence and switching the power of LED Lamps and ozone generator ON/OFF





**QUANTOZONE** hybrid LED rays and ozone generation system with 3 elements: LED lamp, ozone generator and remote control system WiFi software







*QUANTOZONE*  
sterilization  
devices kills  
harmful microbes  
in air, water and  
in materials,  
clothing and  
many other  
products



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