

GWSO' Healthy Lighting Energy is a climate-smart solution in the most pressing challenges facing humanity, and agriculture.

Farmers are particularly impacted by extreme weather conditions, which include drought, severe heat, flooding, and other shifting climatic trends. These all pose challenges for farmers as they work to grow enough food, which is why we're devoted to finding ways to transform agriculture to be part of the solution in addressing climate change. By 2030, we commit to achieve 30 percent reduction of the field greenhouse gas footprint of our farming customers.

From contributor to mitigator

Although agriculture is a contributor to climate change, the industry plays a role in curbing greenhouse gas (GHG) emissions like carbon dioxide, methane, and nitrogen oxide that contribute to climate change. To help ensure a more sustainable future, farmers are taking steps toward a carbon-zero future: using cutting-edge tools and farming practices to remove as much—if not more—greenhouse gases from the atmosphere than a farmer emits. The development of climate-smart solutions including digital farming and improved plant breeding technologies will help reduce agriculture's impact on climate change in the future, and here are some of the many existing practices that are making a positive impact today:

***“HLE- Healthy Lighting Energy”* technology is a climate-smart solution:**

Dr. Vladimir Vasilenko, is research scientist conducting work in the field of utilizing visible light waves and invisible light waves deployed together in a light bar with combination of LED emitters, which do not produce any harmful Ultraviolet (UV) radiation. The light units produced by his company has multiple uses and applications. It is used in retail grocery stores to extend shelf life of the displayed perishable products such as fruit and vegetables, and at the meat and fish sales counters. The HLE light bars are added to shelf lighting. Spoilage is reduced by 25 to 50% making the prevented loss an added business saving.

The potential benefits of HLE might apply to large-scale seagoing export of perishable products from producers of fruits, vegetables and seafood to the overseas markets. And in a similar notion, to assess applicability and profitability of the HLE technology in the specialized overland trucking trade carrying easily spoilable goods within the country, and in the railway haulage of easily spoiled or short-lived cultivated and agricultural commodities. This application works well. The units are patented in the US, Canada, Europe and some other countries of the world.

The proven color combination of wavelengths emitted by our HLE can provide a multitude of advantages for retailers:

- HLE kills bacterial and mold pathogens so produce lasts longer and is safer for the consumer
- HLE stimulates metabolic processes in the cells in fruits and vegetables which delays decay and maintains nutrient levels, increasing shelf-life and quality, reducing costs and food wastage

Achieve an ROI within just 3.5 months!



“Our ice is not turning yellow, but staying clear, the fishy smell has gone, the fish flesh looks better!” - Member of staff at a Michigan retail test supermarket only 3 days after installing HLE unit in the fish counter.

Another scope of the HLE technology application is the use of it to stimulate plant growth and to increase yield in controlled cultivation setups and in commercial hot houses. The HLE illumination strengthens plant internal structures and makes the environment around the plant healthier, because at the same time, the continuously protective HLE light, selectively destroys plant harming microorganisms, bacteria, fungi and other pathogens.

Potentially broad applicability of the HLE concept, is to apply this technology for the benefit of human health. This technology deploys selective combination of colors of natural sunlight.

This multiple capability of our technology makes it a world-first:

Stimulates photosynthesis:

Specific wavelengths of light emitted by HLE technology stimulate the photosynthesis receptors of plants. This increases the rate of photosynthesis (the process by which plants make energy) and enables the plant to grow faster and stronger.

Clean growing:

Our technology allows growers to reduce their pesticide usage by providing a clean, safe, healthy way of killing bacterial and mold pathogens. Plants can be cultivated without the use of as many pesticides, making the produce cleaner and safer for human consumption, as well as less harmful towards the environment.

Regeneration of damaged tissues:

When plants are free from bacterial and mold pathogens, they are able to heal tissues that had previously been damaged by these pests. HLE enables plants to be healthier and stronger.

Increased growth and yield:

By implementing our technology, growers can see huge improvements in the growth and yield of their plants. Lab trials have shown that fresh biomass of plants can be increased by between 10 and 20% for most crops, and by up to 54% for some! Nutrient content of crops is also maintained or improved. These results have the potential to greatly increase profits for growers, with a calculated ROI within 1 year.

Plants reach next growth stage faster:

Plants cultivated using HLE grow faster than plants grown without HLE, meaning seeds germinate faster and plants and their crops develop faster. This enables growers to produce more food, thereby increasing profits.