

Nedap driver technology helps drive sustainability

Sustainability is an increasingly important factor for consumers, investors and businesses alike. Nowadays, 85% of global consumers said they have shifted towards a more sustainable buying behavior (Business Wire, 2021). Embracing sustainability is necessary and can boost profits by as much as 60% through efficiency improvements (McKinsey, 2020). Companies may want to boost their sustainability credentials, but they need to do so in a way that not only doesn't impact productivity negatively but can improve it too. The key to doing this is having the right technology in place.

The power problem

UV low and medium-pressure lamps are crucial components for water treatment and curing applications. The drivers that power these UV lamps, can harm sustainability for their electricity consumption. For instance, UV systems used in drinking water purification plants, require high power UV lamps. The UV lamp drivers in these systems regulate the electric power, which can range from 100 W to 12kW.

We often see systems that use electricity in a way that is not always best compatible with conventional power grids, and this can cause additional losses.

Extending the lifespan of components

But not only do these compatibility issues lead to less efficiency in the short term. As more power is consumed than should have been otherwise necessary, it also gives components a shorter lifespan. It means they have to be replaced sooner. This is both unfavorable for the environment and for a company's profits.

It is for this reason that increasing the efficiency of UV lamp drivers is vital to helping regulate this use of power, leading to greater efficiency in the way electricity is consumed while also extending the lifespan of components.

Compliance pressures

Committing to sustainability is not just a moral and financial imperative for companies, it is something they will increasingly have to adhere to in order to comply with legislation. The European Commission has introduced the corporate as part of the EU's Green New Deal, which aims to make the EU carbon neutral by 2050. On 5 January 2023 the Corporate Sustainability Reporting Directive (CSRD) entered into force in Europe. This directive requires companies to report on how sustainability issues impact their business and how their operations affect people and the planet.

In 2022, the UK also enacted two mandatory disclosure laws, that require certain companies to provide climate-related financial disclosures in their strategic report. Similarly, the US Securities and Exchange Commission (SEC) has also proposed new rules to enhance the regulatory framework for disclosures.

Moreover, the International Sustainability Standards Board (ISSB) has passed a vote on new global climate and sustainability disclosure rules, which will come into effect in 2024. And while it will be up to individual jurisdictions or countries to decide whether the standards should be mandatory, the ISSB has said it will push for them to be adopted globally. These developments illustrate that sustainability will be one of the defining issues facing

More efficient technology

Nedap's driver technology combines high efficiency power conversion with peerless control for optimized UV output and lamp life. Recommended by major UV lamp manufacturers, Nedap's drivers power lamps effectively, providing solutions for low-pressure and medium-pressure, and LED lamps. Nedap's lamp drivers also provide flexible stepless dimming to help build more energy-efficient systems that provide a significant boost to the environment.

1. Low pressure lamps for energy efficient systems

Intelligent solutions for low pressure UV lamps combine high-efficiency electrical power to UV conversion with intelligent controls and pre-programmed lamp characteristic settings for optimal lamp life, as well as for HO- and Amalgam lamps.

Nedap's technology has been used in New York City's largest UV drinking water purification plant, which provides 8.3 billion liters of clean water to the more than nine million inhabitants each day.



Save costs and be more sustainable

2. Medium pressure lamps and reduction in power grid losses

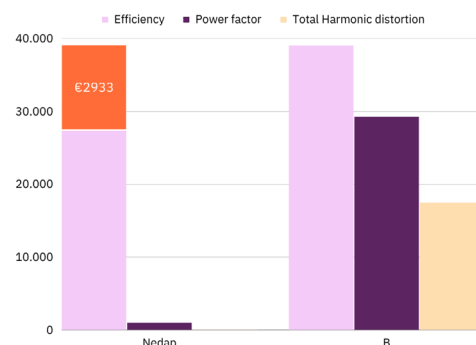
Medium pressure lamps are widely used in different industrial technologies such as printing for ink curing. Nedap's extensive field of experience with a large number of lamp drivers paired with medium-pressure lamps has proven high product reliability and increased lamp life. Additionally, these lamp drivers also help UV system integrators to create more sustainable solutions by reducing the loss in power grids.

Power Factor and Total Harmonic Distortion (THD) impact the 'real electric power' that is converted into UV light. UV lamp drivers with a low Power Factor and high THD consume up to 9,5 % more energy. This adds up to the energy loss due to low efficiency of the lamp driver itself.

Example

UV printers can cause power grid losses, resulting in an additional loss of 45,562 kWh annually. However, using high-quality drivers like Nedap with a high Power Factor (0.99) and low THD (5%) can greatly reduce losses to just 1082 kWh, resulting in a 44,480 kWh energy saving and a reduction of 9,000 kg CO2 emissions per year. **This translates to a financial loss of \$4,782 or €6,672 for the energy supplier. Using Nedap lamp drivers**

Energy loss Nedap vs. 'B' Lamp driver





Improved sustainability through technology

Sustainability is no longer a “nice to have” for companies. It is essential for customer and investor satisfaction and makes operational and financial sense. Nedap’s driver technology provides greater energy efficiency and helps reduce waste from UV lamps, saving companies money and boosting their sustainability credentials.

We power UV

Smart UV driver technology for more sustainable operation



Nr. 1 technology • Most efficient driver technology, requires less installation space. >900.000 electronic UV lamp drivers installed and in use worldwide.



Reliable • Nedap UV drivers are designed to last. The average lifetime production is more than 10 years.



Flexibility • Digital lamp selection and optimization and UV lamp dimming down to 30% and beyond.



Insights • Relevant data for cleaner operation. Embedded software for system data reporting.