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Joining the Green Revolution

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Claypaky Ramps Up Its Sustainable Practices

As greenhouse gas emissions continue to rise, global climate change has accelerated. Temperatures are rising, polar ice is melting, and there are more extreme weather events and more threats to biodiversity. The consequences are becoming more evident: The sea level is rising, there are disruptions to ecosystems, and agriculture is impacted with widespread social, economic, and health risks. The changing weather patterns and its effects are raising eyebrows around the world, and for good reason. Are human activities the main cause? What can be done about it?

Based on years of research, the overwhelming consensus among climate scientists is that humans have a

significant impact on global climate change. The concern is that a 1.5° C rise in the average global temperature relative to pre-industrial levels could push us closer to critical thresholds beyond which there is no return. That's why Claypaky, the entertainment lighting manufacturer based in Italy, has committed to sustainability as the most meaningful way to be part of the solution.

The initiative, called CP Green—Spotlight on Sustainability, was launched in March 2022. Led by Andreas Huber with the strong endorsement and support of CEO Marcus Graser, this initiative focuses on integrating sustainability throughout the company and driving more sus-

tainable operations and products.

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To help reduce its carbon footprint, Claypaky has implemented many steps towards sustainability, reducing the impact of its business activities on the environment.

“We’ve already started implementing a range of greenhouse gas mitigation activities,” Graser says.

Greenhouse gases, which include carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), and fluorinated gases, are produced primarily by burning fossil fuels like coal, oil, and natural gas. These fuels are primarily used to produce energy to make electricity, for heating, and for transportation. Manufacturing also contributes to the production of carbon dioxide, methane, and nitrous oxide.

“Our approach is holistic,” Graser continues, “touching every aspect of our business. From optimizing our manufacturing processes with the Kanban control system to reduce waste, we are constantly seeking ways to be more sustainable.”

The Kanban system, which originated in Japan, is primarily a method for managing and improving work processes. The principles of the system include visualization of work using display cards to visualize and understand the flow of work and identify bottlenecks; limiting the work in progress to assure that teams can focus on completing their tasks before moving on to the next, therefore improving flow and reducing overload; flow management to identify bottle-



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All photos: Courtesy of Claypaky



necks; continuous improvement by regular reviews and adaptations; and the pull system, which only produces what is needed and is based on consumption, leading to less waste.

“As the first company in entertainment lighting to embrace the notion of carbon neutrality as core element of the strategy,” Graser says, “we are proud that for the second consecutive year we’ve obtained the ISO 14064 certification, which calculates our impact on climate change at the organizational level.”

ISO is the International Organization for Standardization, and ISO 14064 is the standard for environmental management, specifically focusing on greenhouse gases (GHGs). It provides organizations with the tools to quantify, monitor, report, and verify GHG emissions.

In addition, Graser said the company is reducing the consumption of heating gas, which includes methane, with the help of its new Building Management Control Scheme. It is also sourcing 100% of the electricity it uses from certified renewable sources and is in the process of converting its car fleet to electric vehicles. In addition, it is installing energy-efficient machinery and has switched to LED lighting while improving product designs and components to make fixtures more energy-efficient. As a result,

Claypaky is the first entertainment lighting company to embrace laser-based light sources, an innovative technology with greatly increased light output and significantly reduced energy consumption. The company has also optimized compressed air production, reducing both CO₂ and electricity consumption. Alongside this, it has eliminated solvent-based ink—which evaporates, producing chemical fumes that add to ozone pollution—in packaging; it has also adopted more paperless operations.

An organization called SpinLife, which focuses on environmental and sustainability management for public and private organizations and is associated with the Department of Industrial Engineering at the University of Padua, has been assisting Claypaky in its sustainability endeavors. The professors and researchers with SpinLife have a strong background in quality and environmental studies. Their key areas of expertise include life cycle assessments, business sustainability services, and carbon strategy.

CP Green is already achieving encouraging first results. From the baseline in 2021 to 2022, CO₂ production has been reduced from 2.852kWh over a five-year life span in 2021 to 1.939kWh over a five-year life span in 2022. And though the company produced more products in 2022 com-

pared to 2021, its electricity consumption per unit dropped from 175kWh to 164kWh, a clear indication that products sold in 2022 have a smaller carbon footprint than those previously produced. The company anticipates further reduction in the future, thanks to this initiative.

As a result of ISO 14064, “a comprehensive analysis of Claypaky’s direct and indirect emissions” has enabled the company to identify and define “concrete actions to reduce the impact on climate change.” It now continuously updates its carbon management plan to refine its GHG emissions reduction strategy and find realistic solutions.

“This certification is not just a badge of honor for us,” Graser says, “it’s proof that we’re not just talking about change; we’re making it happen with concrete actions.”

The next steps include installing enough solar panels to provide 300kW of peak power by the end of 2024, enough to generate a major share of the electricity needed for the company’s operations. It will also continue to collect data on its GHG emissions with the goal of identifying more targets to optimize and reduce emissions associated with logistic processes and raw material acquisitions. This includes using carbon offsets to be more accountable for emissions produced in

the process of manufacturing products and further improvements in fixture design to make them more energy-efficient.

“Beyond the strategy of ‘good corporate global citizen’,” Graser says, “we in Claypaky see sustainability and carbon-emission reduction as a key part of our innovation strategy that goes beyond the product itself. Innovating for us does not only mean creating new innovative technologies and hence products and new effects but also innovating in how our products are created and then finally used.”

Keeping the average global temperature rise below 1.5° C, climate scientists say, will reduce the severity of heat-waves, heavy rainfall, and droughts. It will also slow the rise of sea levels and lower impacts on biodiversity and delicate ecosystems like coral reefs, which are at high risk of severe degradation. It will also reduce the number of people exposed to climate-related risks and lower the number of people who will be susceptible to poverty, food insecurity, lack of water, declining health, and slowing economic growth. To reach this goal requires fast and dramatic changes in how we produce energy, how we use land, how we use urban infrastructure, and how we manufacture products. Claypaky is doing its part, not only by reducing its carbon footprint, but by demonstrating how the entertainment lighting industry can be a good global citizen while creating synergies.

“Beyond that,” Graser says, “it also creates a sense of collaboration by encouraging employees to get more involvement and idea-sharing for improving sustainability.” 