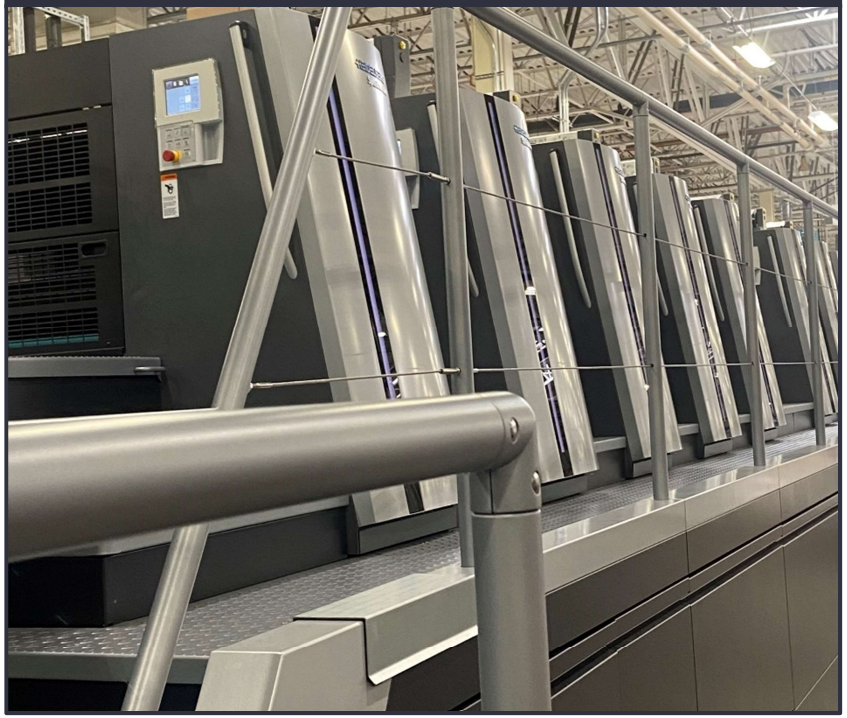
Phoenix Color

ENVIRONMENTAL POLICIES and MANAGEMENT

2022


Phoenix Color
Our comprehensive environmental plan
reduces consumption of resources and lessens our
overall environmental footprint.

Investments in UV/LED Printing & Energy Reduction



Energy Efficiency and Resource Management

- Converted UV Presses in both facilities to UV/LED to further reduce VOC emissions and use significantly less energy
- Phoenix Color has significantly increased printing capacity in its Terre Haute, Indiana facility, and will be installing Paper Sheeting capabilities as well. Local sheeting and the close proximity of Terre Haute to major book binderies will reduce trucking miles by over 130,000 per year.
- Annual HVAC tune-ups on all rooftop cooling units. Each tune-up includes cleaning the evaporator and condenser coils, correcting refrigerant charge and replacing filters allowing for maximum efficiency, airflow and performance
- Estimated Annual Savings of 1,048,951.05 kWh

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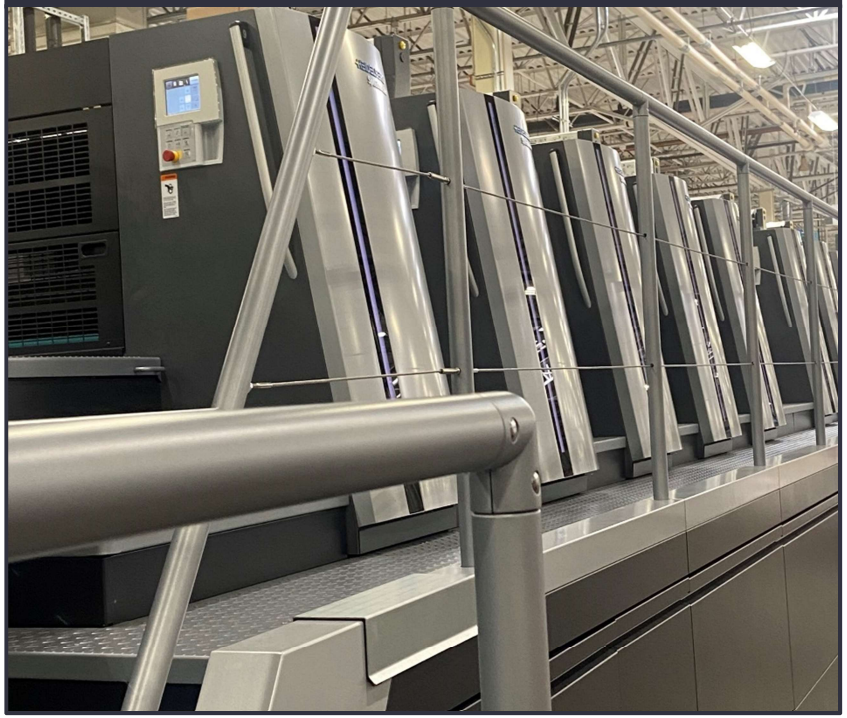

Chilled Water Plant with Cooling Towers

- Installation of 800 ton centrifugal chiller and large heat exchanger giving us "free cooling" capacity in the cooler months
- Installing VFDs on all 5 Air Handler Units as well as the eight (8) chilled water and two (2) boiler pumps. The outdated pneumatic control system was replaced with a Trane BAS (Building Automation System). The custom efficiency BAS program took control of the entire system.
- Integration of much of our process cooling load. Instead of operating and maintaining many individual split system refrigeration units at the presses, we installed heat exchangers at the presses and use the more efficient Chilled Water Plant to provide this cooling load and we continue this process today with each press install.
- Install of a new Trane 400 ton air cooled chiller. The 800 ton water cooled chiller is efficient with large loads associated with warmer temps. When comfort and precess cooling needs and ambient temps fall, the air cooled chiller is more efficient. The BAS programming was then updated to automatically choose between 4 different cooling modes to produce the most energy efficient result based on cooling load and ambient weather conditions. Modes are; Water Cooled, Air Cooled, Free Cooled, and Mechanical Assist.
- In-house audits to our house compressed air system for leaks and efficiency
- Installation of controls that activate/deactivate air compressors based on efficiency and demand

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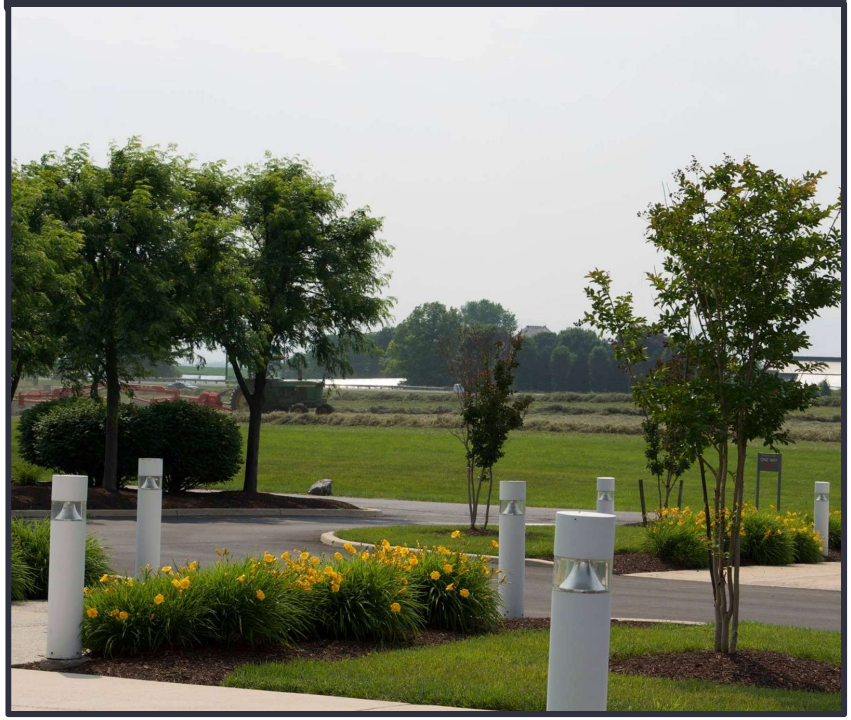


Lighting Systems

- T-5 lights replaced the Metal Halide lights
- When the bindery was built, we continued the practice of daylight harvesting through skylights and windows. Not only do the LED lights in the bindery have smart motion sensors, they are also equipped with photo sensors that detect daylight from above that prevent the light from turning on unnecessarily.
- 100% of street and parking lights (Metal Halide & HPS) converted to LED
- 100% of t8 fluorescent office fixtures converted to LED (approx. 3,600 lamps)
- 100% of T-5 high bay fluorescent fixtures replaced with high bay LED fixtures
- Fluorescent to LED typically yields about a 70-75% energy savings

Waste Stream Management Efforts

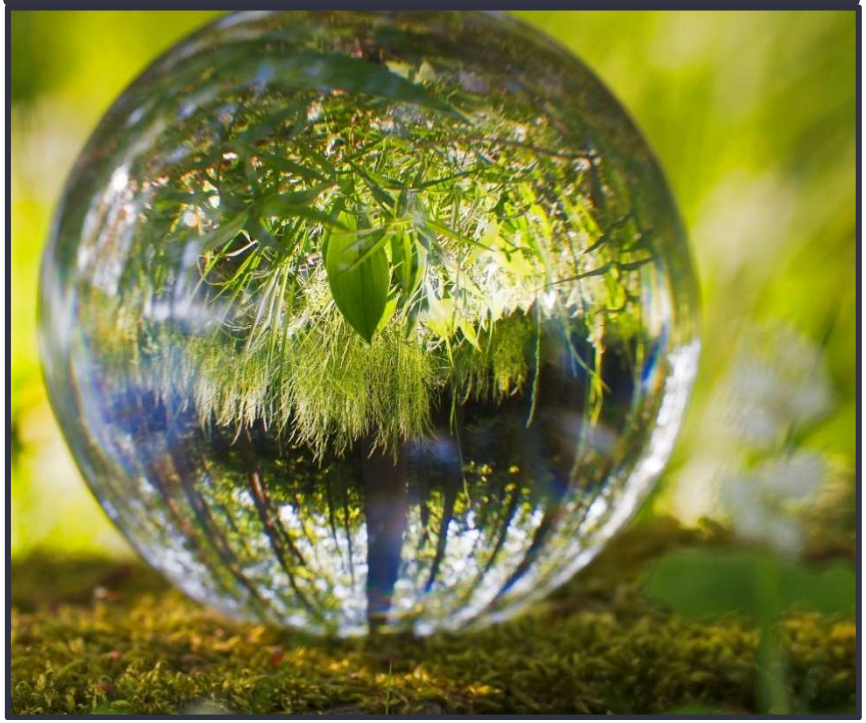
Recycling

Our facilities have an extensive recycling program for all paper waste whether unprinted, printed or laminated. In addition to this program, we have implemented recycling programs for nearly every material used in the manufacturing process to include all electronics.

As a result of our aggressive recycling program, we have been able to reduce the amount of non-recycled materials by approximately 75% in the last five years.

We maintain ongoing efforts to reduce the amount of waste generated throughout the manufacturing process.

Waste Stream Management Efforts



Auto Count System

- Installation of an Auto Count System manufactured by EFI which allows us to track and report all manufacturing waste and efficiencies, significantly increasing materials accountability throughout the printing process. Over time, this investment has allowed us to reduce the amount of materials input into the manufacturing process, further reducing our carbon footprint.

Air Emissions Policy & Management

Maryland Department of the Environment

IDEM

Phoenix Color operates within the State of Maryland Department of the Environment and the Indiana Department for Environmental Management regulations by assessing chemicals that are allowed into the facility and continually monitoring emissions through our rolling 12-month emissions tracking system.

We also perform annual TAP (Toxic Air Pollutant) analysis as part of the annual TAP Certification requirements, which demonstrates that our HAP (Hazardous Air Pollutants) /TAP emission rates are compliant with MDE and IDEM standards.

- Phoenix Color's goal is to continue purchasing state of the art UV and LED platform presses which reduce emissions from the facility
- We work closely with our vendors to substitute coatings, cleaning solutions, fountain solutions and inks with a lower VOC output

In addition to reducing emissions, we also strive to reduce waste from these chemicals, such as: UV coating waste, ink waste, fountain solution waste and cleaning solution waste.

Certifications & Product Testing

SFI and FSC Certifications

- Phoenix Color is both SFI® (Sustainable Forestry Initiative) and FSC® (Forestry Stewardship Council) certified. These certifications were obtained in 2007 and are subject to annual audits by the certifying organizations.

CPSIA

- Phoenix Color requires all of our suppliers to provide documentation that raw material conforms to CPSIA regulations for lead and phthalate content. In addition we regularly test finished products, the results of which easily meet all CPSIA standards for children's books.