



# Empire **EMS**

## Annual Report

FISCAL YEAR  
**2019-2020**



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**FISCAL YEAR**  
**2019-2020**  
 Oct. 2019-Sep. 2020

# EXECUTIVE SUMMARY

## our company mission

At Empire, we are dedicated to being a cutting-edge print supplier. We create custom pro that enrich our customers' brand and identity by providing a friendly, knowledgeable customer experience every time.

## our company vision

Empire is customer focused. We listen to both our internal and external customers and look to improve based upon their input. Through relentless pursuit of customer satisfaction, we work to grow our customer base and make our company strong. We develop our people by investing in education and training to empower them to make improvements to the products, services, processes and themselves. We concentrate on implementing sustainable production methods that are environmentally safe to protect our planet for future generations.

## our core values

Respect • Integrity • Responsibility  
Continual Improvement • Knowledge • Excellence

# Our Environmental Vision

## focus

Empire's focus is providing our customers with products and services that produce sustainable results and business practices. Through our relentless pursuit of customer satisfaction, we will grow Empire's customer base and strengthen our company. We will strive to improve our process by listening to our customers, collaborating with our business partners and developing our people through education and training. Our employees will be empowered to continually make improvements to the process, their work environment and themselves. We will develop production methods that implement sustainable environmental, health and safety (EHS) practices into all aspects of our operations.

## commit

We commit to being compliant with all applicable EHS and labor regulations (federal and state). We will continue to implement programs and procedures in accordance with these requirements.

## pledge

We pledge to look for new opportunities and innovations that will help enhance and improve our sustainability program beyond regulatory compliance. We will strive to incorporate activities and procedures that will reduce our impact on the environment as well as improving the quality of health and wellness of the employees. We will measure our progress through regular audits and annual reviews.

## strive

Empire will strive to implement procedures to target prevention of activities, services or products that may cause harm to human health, safety, or the environment. These procedures will be designed to affect Empire and/ or the surrounding community.

## communicate

We will communicate our sustainability commitment to our employees, vendors, customers and community through educational training and marketing. We will encourage their input on meeting our goals and improving our procedures.



## the art of printing: celebrating 60 years

In October of 1960, a young Jim Brush ventured out on his own and started a screen printing business. His perseverance, self-reliance, strong will, and determination let him down a path of success. Jim grew the business to have over 350 employees in the early 2000s, and expanded into flexographic printing, doming and digital capabilities.

Over the last 10 years, Jim put his trust in John Freismuth as President to run the day-to-day operations. John studied lean manufacturing and brought a new way of thinking to Empire.

Nestled between the bluffs in Onalaska, Wisconsin, Empire Screen Printing is a family-owned, award-winning business that prides itself on using environmentally-friendly print methods. We're a full-service company in OEM and POP markets, producing overlays, vinyl decals, crystal-line domes, nameplates, magnets, and roll labels, using UV LED screening, digital, and flexographic printing.

## significant environmental aspects & impacts

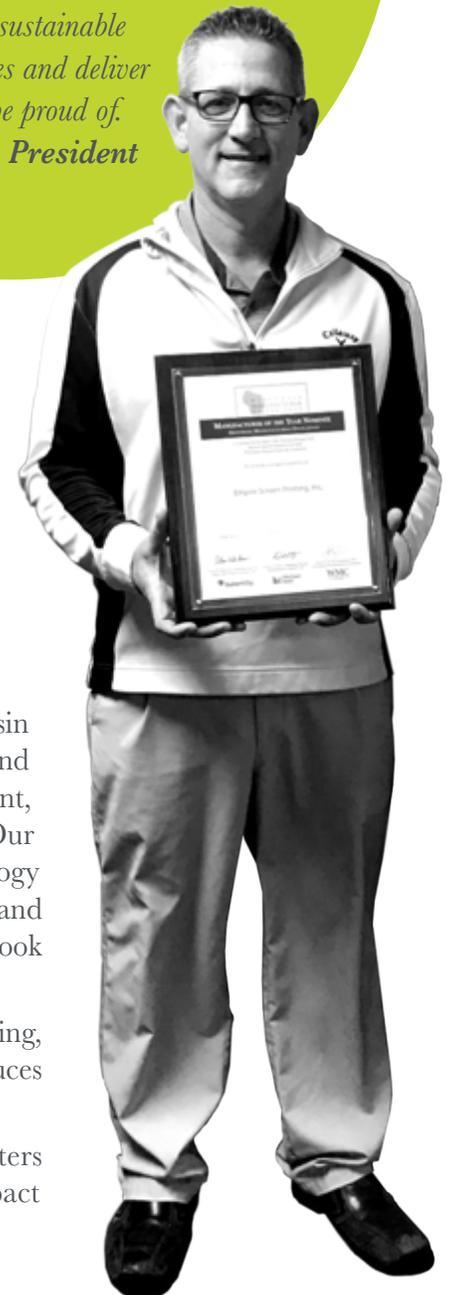
Empire recognizes the importance of reducing our carbon footprint. As a Wisconsin Green Tier Company, we are committed to go above and beyond local, state, and EPA environmental standards. We promote innovative ways to help the environment, lower costs, boost productivity, and build better relationships with the community. Our management team is driving our business through innovations in sustainable technology and lean manufacturing principles to improve the product, services, processes, and themselves. We're focused on listening to our external and internal customers and look to continuously improve based on their feedback.

Empire is the world's first to utilize UV LED ink-curing technology in screen printing, building green into the product. Not only is the ink non-toxic, but the process produces no ozone emissions and is 98% more energy efficient than traditional methods.

Recognized by the state of Wisconsin as a Green Tier 1 company and a Green Masters Professional, our established printing process is eco-friendly with no additional impact to the cost.

# BUILD A SUSTAINABLE WORKPLACE

*We can continue to build a sustainable workplace for our employees and deliver a product that we can be proud of.*  
-John Freismuth, President



# ENVIRONMENTAL PERFORMANCE



## green tier participation

Empire has been a Green Tier participant since 2013. We have made sustainability part of our business initiative over the last seven years. As a member, we work to live by our commitments outlined in our sustainability policy and have an established Environmental Management System, which has been audited, both internally and externally.

The guidelines put forth by the Wisconsin Green Tier program hold us accountable and provide validation for our efforts. Our proudest achievement is developing and implementing UV LED ink curing technology for screen printing. As the pioneering company for this technology, we have shared this with our industry. Green Tier provides a third-party platform for us to share this message and build awareness.

Today, 85% of our manufacturing uses UV LED technology and has earned us over 20 different awards stemming from our drive to being a sustainable company. Marketing our brand using the WI Green Tier logo is an added benefit, and we take great pride to be a leading manufacturer in the state of Wisconsin.

# environmental performance

With 60 years in the printing industry, Empire has always looked at processes that use less or could be reused. It just made sense from a company that started out with one individual and grew into what it is today; being resourceful and efficient was just a necessary aspect of the job.

In the 80s, we implemented a centrifuge to reclaim washup and reduce what was thrown away. We reused inks or used them to rematch color. In the 90s, we looked to convert from solvent inks to UV inks because of the harsh working environment that is inherent to working with solvents.

It wasn't until we became Green Tier that we applied what we were already doing: an Environmental Management System (EMS). Creating a sustainability policy and developing an EMS opened up more possibilities to see and understand our environmental aspects and impacts—not just to protect the planet, but also for the safety of our employees.

When we first were approved by the State of Wisconsin as a Green Tier I company, Empire was in the midst of developing and implementing UV LED ink curing technology for screen printing. We were the first company to successfully implement this into a production process. This technology exceeds any compliance for print manufacturers to date.

At one time, Empire had to report to the EPA, but now is considered a small quantity generator for both hazardous waste and throughput emissions. What once was 80,000 pounds of emissions, is now averaging 14,000 pounds of emissions, which is well below our 25-ton permit cap. That's a tremendous success when looking at our square footage of manufacturing space and the amount of equipment used at our facility.

In 2012, we started a recycling program to reduce our landfill waste. This is part of our culture, and employees look to either recycle waste materials or dispose of them in our burn for energy compactor. Our employees are driving this change and work to improve it.

We converted 99% of our overhead lights to more energy-efficient LED T8 bulbs. The remaining 1% that did not convert are areas that have minimal use, and the expense to change didn't outweigh the benefit. We've implemented a film-free workflow. All files are produced using direct-to-screen or direct-to-plate technology, eliminating the harmful chemicals used in film development.

We are converting existing equipment from mercury vapor ink curing to LED ink curing and have built and implemented our own screen printing presses using LED technology. In 2020, we removed the last of our remaining solvent inks from our facility and removed the equipment required to cure it.

Our manufacturing is a sustainable, environmentally-safe process that provides a safe working environment for our employees and a product produced with little impact on the environment.



12-color Legacy  
Screen Print Press

# our performance during the covid pandemic

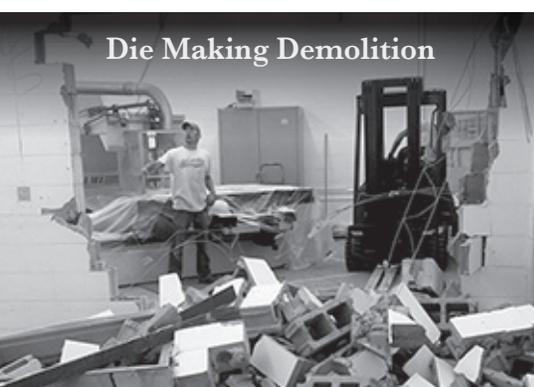
Covid 19 created an unprecedented affect in the American workplace. Due to certain companies needing our products during the pandemic, Empire was very fortunate to be an essential business and was able to remain open. We took extra precaution for the first three months by separating into 4 equal groups (2 shifts) with no overlap between groups. This allowed us to continue moving the product through the plant and to the customer, but still keep our employees safe. We also separated by departments with very few employees moving throughout the plant. Meetings were held remotely when possible and outside training was postponed.

As the health and safety of our attendees is our top priority, and out of an abundance of caution, PRINTING United Alliance and Empire Screen Printing made the decision to move this year's Partners in Printing event to 2021.

During the lockdown there was only 25% capacity of employees present in the building at any given time, so Empire took advantage of the situation and concentrated on making manufacturing more efficient as well as making upgrades to the building itself. Some of the additions/upgrades were:

- Upgrade the Roll-to-Roll area for more efficient production
- Acquired a Jetrion press to be utilized for its laser
- Converted our Aquaflex Flexo press to LED
- Acquired a Dane Wash 250 screen washing unit
- Removed the old Direct-to-Screen Unit which used mercury bulbs, and replaced it with a CST DLE New Compact with Laser imaging technology
- Updated Color Management profiles using the new CST unit for Large Value Stream and Small Value Stream screen print areas
- Purchased a second Preco die - Machine Shop developed an unwind system for this die cutting machine
- New bathrooms in the plant
- Remodeled Die Making to include our Laser cutting departments. There are 4 laser cutters in that room. We moved the METAbeam and bought 2 BOSS units.
- New shear cutters that are safer for the operators (older ones will be updated for safety)

Currently we are back to a more normal routine, with the exception of maintaining separation between shifts and other departments within the shift. We follow the CDC guidelines for quarantine periods and have mandated that all employees wear masks, maintain social distancing and practice safe hygiene.



Die Making Demolition



Dane Wash 250



New CST Unit

# PROGRESS ON GOALS/OBJECTIVES



Prototype Roll-to-Roll screen print unit using UV LED Technology

# 2019-2020 progress: goals & objectives

## Objective #1

Reduce our annual landfill waste to 23.85% by 2022.

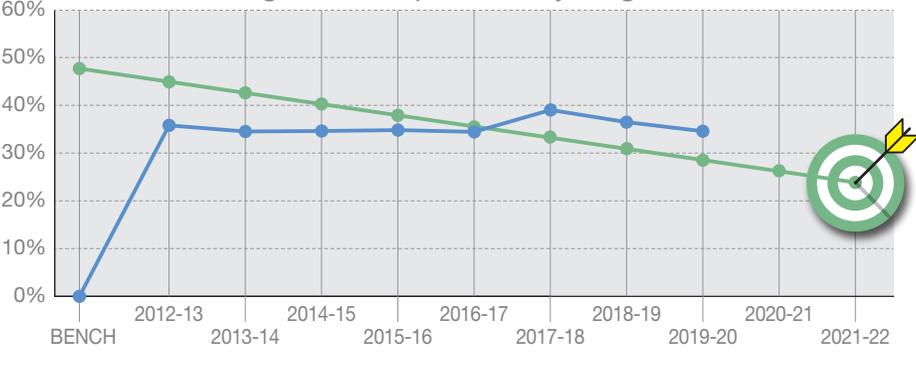
Empire Screen identified 2012 as the baseline year for setting a waste reduction goal. In 2012, 47.69% of waste generated was sent to the landfill. By 2022, Empire Screen will reduce the waste sent to the landfill by 50%, with an annual reduction of 2.39%, resulting in no more than 23.85% of all the waste generated being sent to the landfill.

**PROGRESS:**

We are below our annual target (Fig. 1), but are still seeing a decrease in our landfill waste (Fig. 2). The following action items were implemented this year:

1. Contact vendor to see if there are other options for recycling Graphium ink waste containers
  - » *The Graphium ink waste containers are being sent to the burn-for-energy compactor instead of the landfill.*
2. Polycarbonate with adhesive is no longer being accepted for recycling. Find ways to offset this:
  - » *Run more jobs in flow: There was a management discussion about the accuracy of the metric. We are in the process of setting new definitions to get a more accurate result.*
  - » *Reduce the amount of material being used by not over-producing. This is a continuous improvement with time studies currently being performed.*
  - » *Print polycarbonate jobs on the roll screen press. The construction of the roll-to-roll prototype press was completed in July 2020 with the first 1-color job printed in September 2020.*

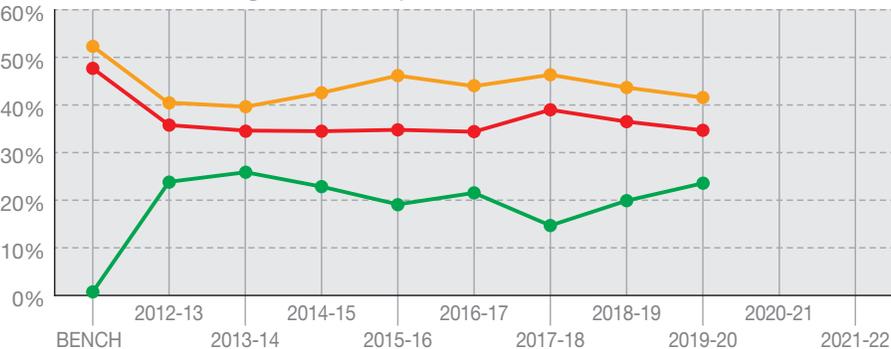
Figure 1: Empire's Recycling Goal



Landfill Waste		
YEAR	TARGET	ACTUAL
2011-12	47.69%	Benchmark
2012-13	45.30%	35.77%
2013-14	42.91%	34.49%
2014-15	40.52%	34.59%
2015-16	38.13%	34.78%
2016-17	35.74%	34.41%
2017-18	33.35%	38.99%
2018-19	30.96%	36.44%
2019-20	28.57%	34.68%
2020-21	26.18%	
2021-22	23.85%	

● = Target  
● = Actual

Figure 2: Empire's Generated Waste



FISCAL YEAR	Landfill %	Energy %	Recycle %	Total Waste (tons)
2011-12*	47.69%	52.31%	0.00%	369.64
2012-13	35.77%	40.44%	23.79%	370.96
2013-14	34.49%	39.63%	25.87%	351.24
2014-15	34.59%	42.56%	22.85%	372.28
2015-16	34.78%	46.17%	19.05%	347.28
2016-17	34.41%	44.05%	21.54%	408.66
2017-18	38.99%	46.34%	14.68%	409.64
2018-19	36.44%	43.66%	19.90%	408.57
2019-20	34.68%	41.74%	23.57%	429.32

● = Landfill Waste  
● = Recycled Material  
● = Waste to Energy

## Objective #2

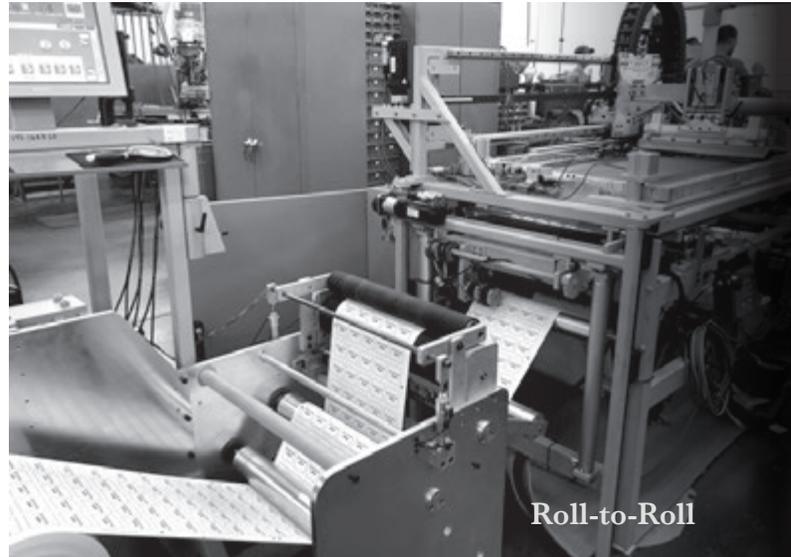
### Implement sustainable print methods with equipment using UV LED technology.

#### A. Complete/build Roll-to-Roll screen print units using UV LED Technology (2 year objective)

This is the second year of our two-year objective. The print station prototype was completed in 2019. The rest of the press will be completed and running by July 2020.

##### **PROGRESS:**

The goal was to complete three additional print stations, making it a 4-color press and move into production. The objective was switched to a 2-color press because a 4-color press will need different programming. The first prototype job was completed in September 2020 but the press was not moved into production because a second table needs to be added and additional safety measures need to be implemented before proceeding.



Roll-to-Roll

#### B. Purchase an automatic screen-washing unit that uses recycled water

This unit has reclaiming and developing in one unit. Two-thirds of the processes will use recycled water, with one-third using clean water (for the final wash). Rags will no longer be needed in the reclaiming process. Purchase and setup of the unit will start in November 2019 and be completed by May 2020. Currently we do not have a meter on our well, but based on our current hauling cost and production, we can reduce our cost and water/tons by 25-50%.

##### **PROGRESS:**

Installation of the screen-washing unit was completed in June 2020. Rags are no longer needed in the reclaiming process. The intent to have two-thirds of the processes using recycled water did not work. Although the solvents were able to be cleaned enough to be reused, there wasn't a viable way to remove the solids from the water to make it clean enough, and the system would clog after a number of runs. This will be a continuing objective next year to research alternate units that will affectively work.



Screen Washing Unit

#### C. Increase UV LED in screen print production 13.33%

We will increase our use of UV LED technology in screen print production from 75% to 85%

##### **PROGRESS:**

We were able to increase the use of UV LED technology in production to 85% by accomplishing the following:

- » *Eliminated the Patriot FMA Line*
- » *No longer using solvent inks in screen printing production*
- » *Removed the Solvent Drying Oven*
- » *Switched the Flexo press units (8 total) to UV LED.*

## Objective #3

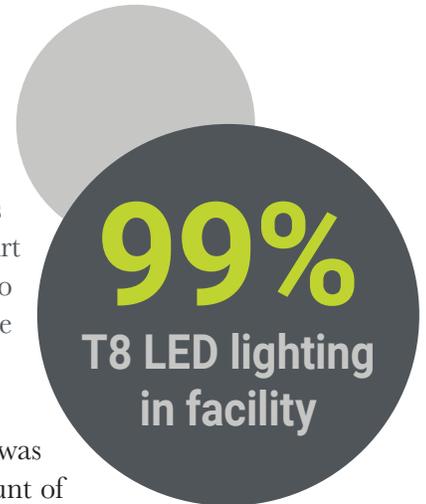
Update/replace equipment as needed for better efficiency and/or per legal and other requirements.

### Lighting Conversion

Empire Screen will be converting T12 and T8 fluorescent bulbs to T8 LED bulbs (15 watt or 18 watt bulbs will be installed) in the following departments/areas: Art (this is a continuation from last year), IT, the old house area and outside lighting, to be completed by September 2020. After these conversions, 99% of the facility will be using LED lighting. This conversion will yield a 20-35% decrease in watt usage.

### **PROGRESS:**

After doing a time study for lighting usage in the Art Dept and old house it was determined that leaving the fluorescent lights would be fine, due to the limited amount of time the lights are in use. In the old house, some of the lights were removed, but were not replaced with T8 LED bulbs. Management has deemed this project to be complete as of September 2020.



## Objective #4

Make improvements based on our 2019 external audit.

Reevaluate and rate the aspects and impact resolutions based on the new scoring system, as well as updating all documentation. This will be done within individual departments/areas and be completed by end of 2021 fiscal year.

### **PROGRESS:**

We are continuing to work towards this goal. We had some setbacks in 2020 with our Covid policies and some of the initial group plans and meetings were put on hold. This objective will continue into our 2021 objective.

1. Create a Departmental Template Sheet that can be used to help develop the Master file, but is a more user-friendly approach and can be used throughout the year and for audits.  
*A Departmental EMS Aspect/Impact Assessment sheet was created in March 2020, to be used to assess environmental risk and opportunity for improvement within departments.*
2. A Green Team member will meet with an entire department (both shifts) whenever possible, and using the Departmental sheet, ask questions directly related to their department regarding risk and opportunity (for improvement). We will set a goal of meeting with 40% of the departments.  
*This portion of this objective was not met, due to covid19 restrictions. We have added this as a continuation on our 2020-2021 objective.*
3. Use the current Impact/Aspect sheet as a Management Master file and edit at the end of each year.  
*This portion of this objective was not met, due to covid19 restrictions. We have added this as a continuation on our 2020-2021 objective.*

# metrics

All metrics are based on Appendix 1



## demographics

Baseline year.....	2013
Number of employees.....	252 full-time / 22 part-time
Increase/Decrease % of sales from previous year.....	-7.74%
% of local purchases.....	No data available
% of in-state purchases.....	No data available
% of Green Tier purchases.....	No data available



## transportation

Hybrid vehicles.....	2
Gas vehicles (includes 1 tractor for mowing).....	3
Diesel tractor used for mowing/snow removal.....	1
Vehicle maintenance expenses**.....	\$1,942

*\*\*Vehicles expense includes gas, oil, tires & misc. maintenance - not itemized*



## water

Municipal Water.....	N/A
Well water.....	Not monitored
Water recycled/reused.....	No data available
Wastewater discharged*.....	282,400 gallons/year

*\*Screen Making Tanks - does not include septic*



## energy

Total Electricity used.....	3,142,880 kWh/yr
Total Natural Gas used.....	5,873,900,000 BTU/yr
Propane (LP).....	No data available
Diesel (Emergency Generator).....	1,549.3 gallons/yr



## air

Total Particulate Matter (PM).....	No data available
Volatile Organic Compounds (VOC).....	16,350 lbs/yr
Ozone-depleting substances.....	100 lbs/yr
Greenhouse gas emissions.....	No data available

*Air emissions are recorded annually*

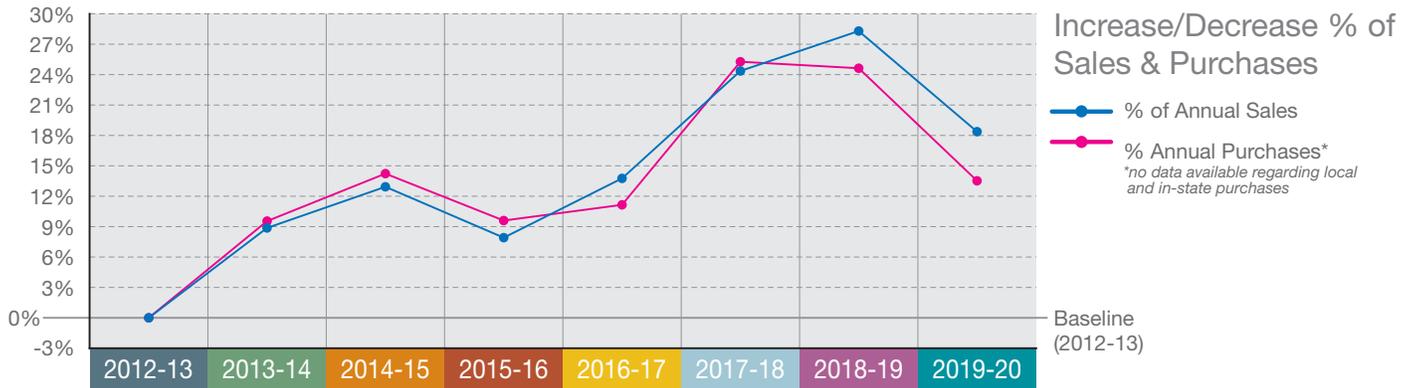


## waste

Solid waste generated.....	429.32 tons/yr
Waste recycled or reused.....	280.42 tons/yr
Universal waste generated.....	No data available
Hazardous waste generated.....	4,587 lbs/yr
% of recycled/reused used in manufacturing.....	No data available



metrics | **demographics** | sales & purchases



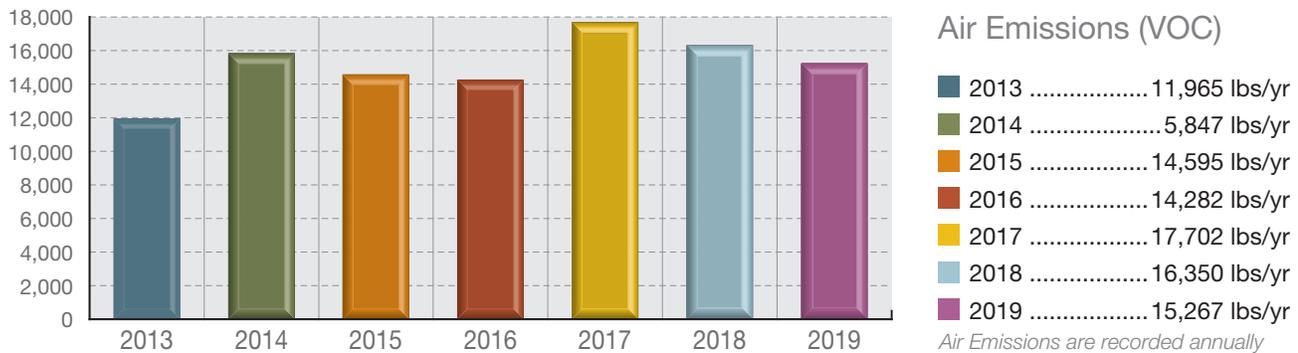
metrics | **water** | wastewater & recycled/reused

wastewater .....282,400 gallons/year  
 2019-20 will be our baseline year to monitor wastewater discharged, which is recording screen making tanks.

In 2019, we had a non-conformance with one of our sampling sites, which contained high lead levels. This site was a testing area that pulled water from a sediment area below the drinking fountain. This water site has been completely removed and a new location has been established. The non-conformance has been resolved and the new drinking fountain is within accepted levels and has been on a more frequent monitoring schedule to ensure acceptable levels are being maintained. Information about this non-conformance and the results of the lead and copper test are posted on the employee right-to-know boards.



metrics | **air** | voc emissions



Ozone-Depleting Substances (no chart): Air conditioner has 100 lbs of R-22 refrigerant added annually.



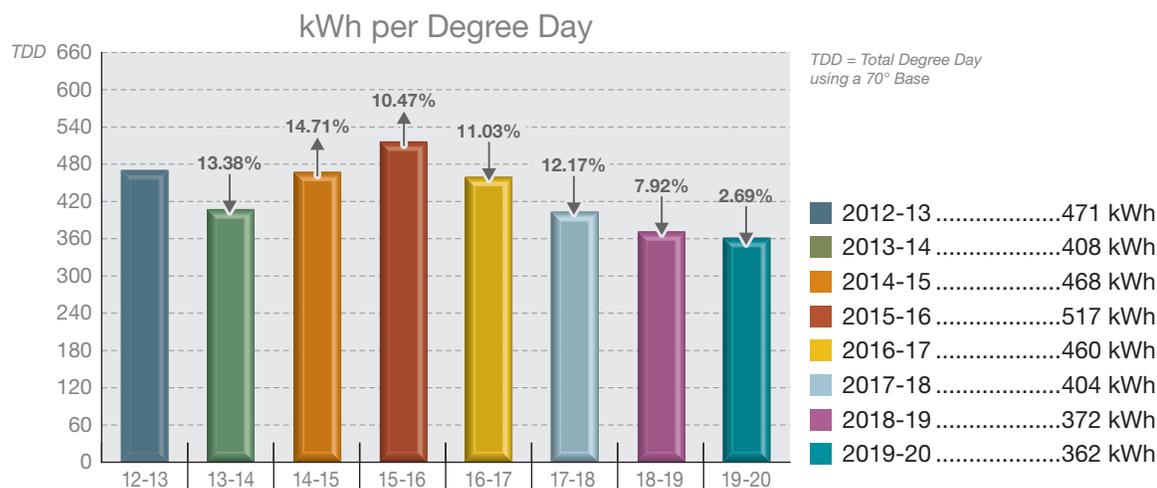
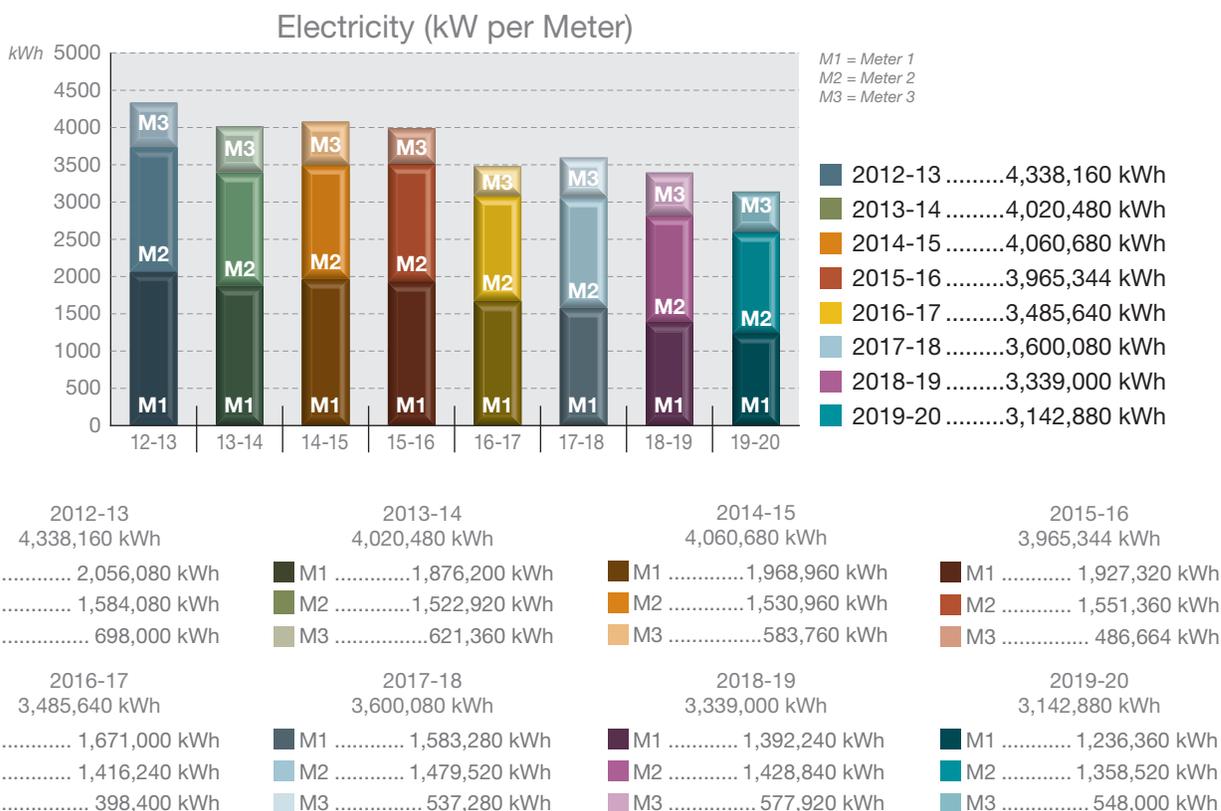
metrics | **transportation** | vehicles & equipment

Maintenance expenses for the year .....\$1,942\*  
 2 Prius hybrid automobiles (yr. 2011).....used for outside sales/transportation  
 2 Chevrolet Silverado trucks .....used primarily for maintenance needs  
 1 John Deere 4310 diesel tractor..... used for mowing and snow removal  
 1 John Deere 425 Rider .....used for mowing

\*Vehicle expense is not itemized and includes gas, oil, tires & misc. maintenance



metrics | energy | electricity (riverland energy)

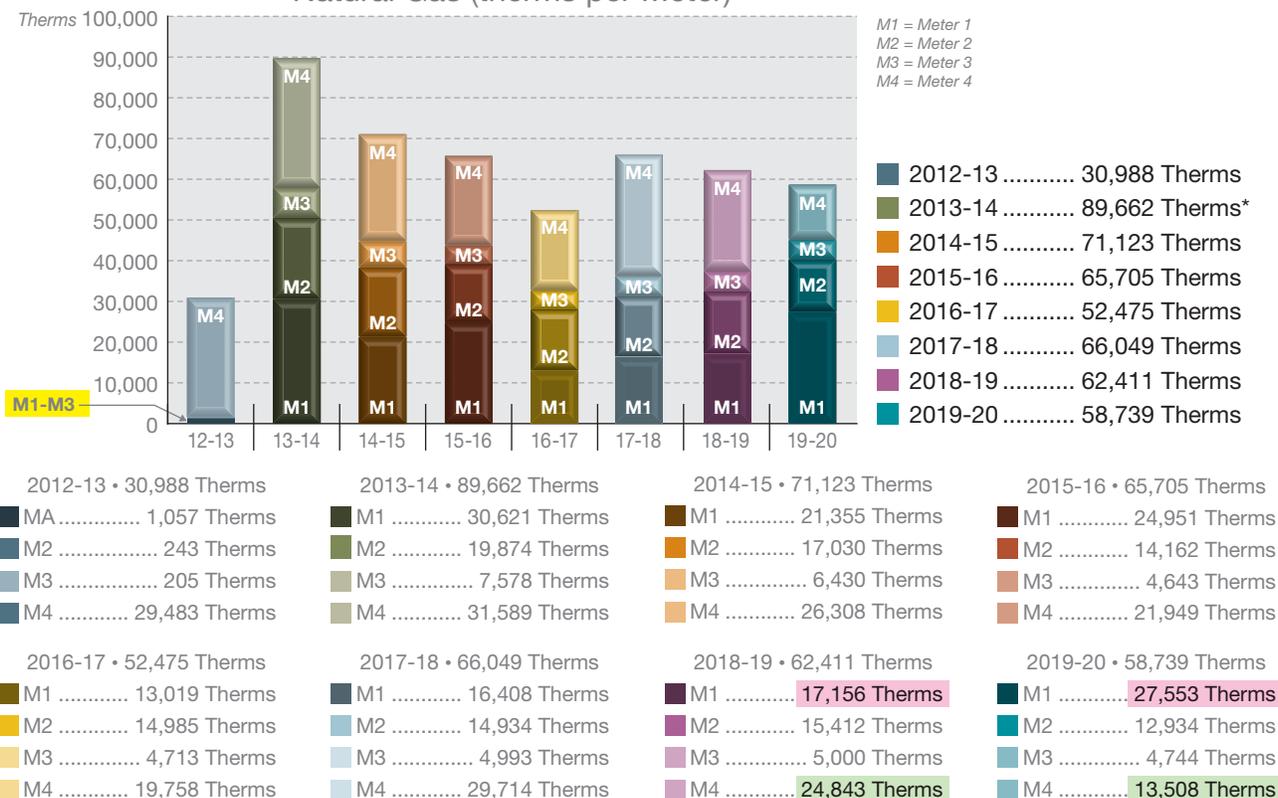


Our annual reports document both the total kWh hours and therms for electricity/natural gas. In addition, we document the increase or decrease percentages based on the kWh per degree days, because it takes into account the various temperature variations. We believe it is a more accurate account of what our equipment/facility is producing for energy.



metrics | energy | natural gas (xcel energy)

Natural Gas (therms per Meter)

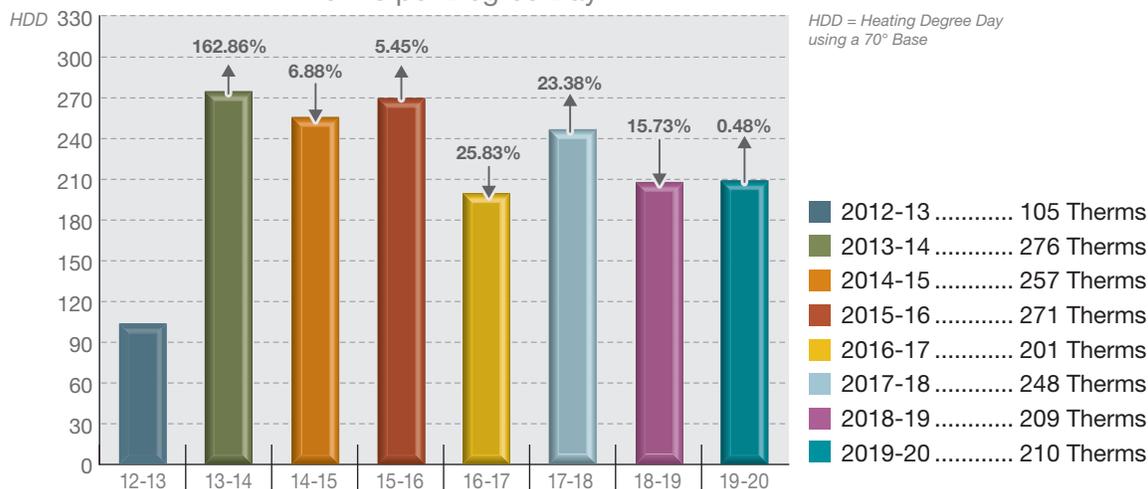


**Meter A** malfunctioned in 2012-13 fiscal year, but was not discovered until September 2014. The meter was replaced with Meter #1. The therms were then averaged between October 2014-March 2014.

**Meter 1** saw a 60.60% increase in 2019-20. During Covid 19, Empire was working seven days a week (23 hours a day) from March 24-June 7th, with nothing shutting down because of continuous use. Meter 1 contains a large majority of our screen print manufacturing, which needs a controlled temperature environment. This would attribute to the increase.

**Meter 4** saw a 45.63% decrease in 2019-20 due to elimination/replacement of an old air handler. See our 2018-19 EMS Annual Report for more information.

Therms per Degree Day

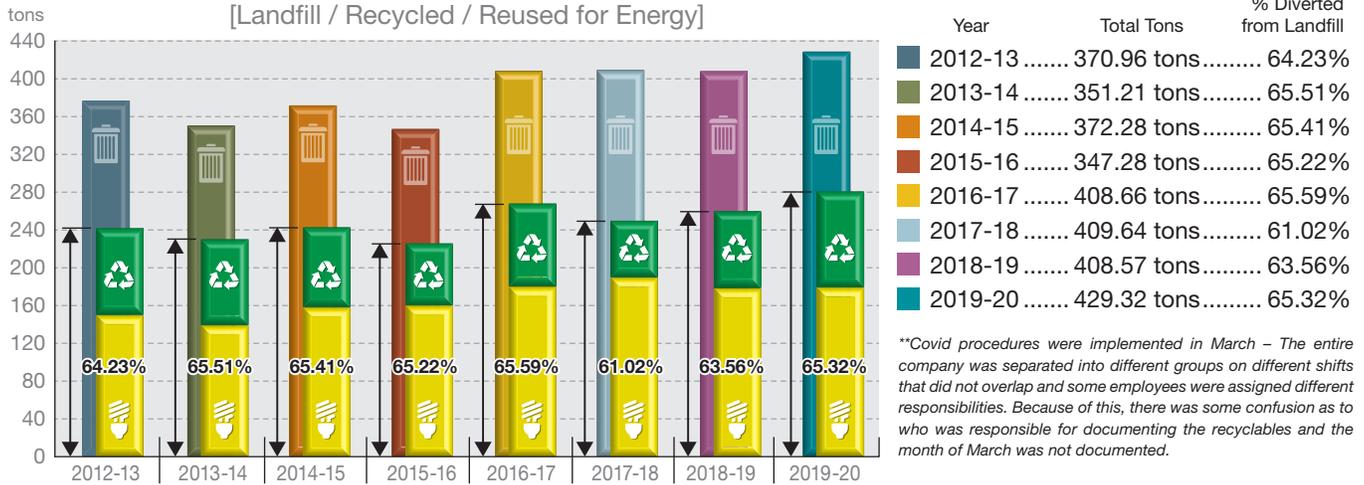


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metrics | **waste** | total generated waste

**Total Waste Generated**  
[Landfill / Recycled / Reused for Energy]



*\*\*Covid procedures were implemented in March – The entire company was separated into different groups on different shifts that did not overlap and some employees were assigned different responsibilities. Because of this, there was some confusion as to who was responsible for documenting the recyclables and the month of March was not documented.*

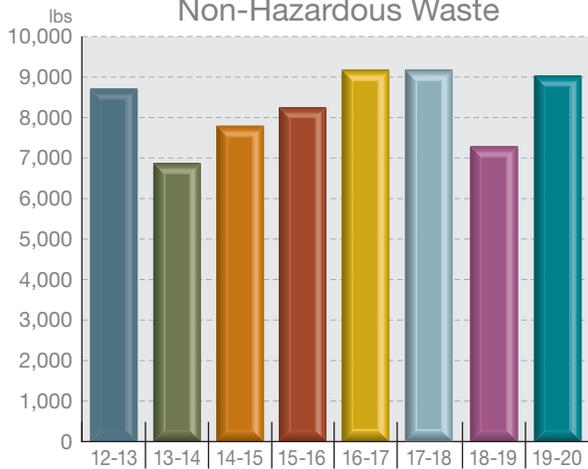
**Sent for Energy**

2012-13	150.03 tons	2016-17	180.02 tons
2013-14	139.21 tons	2017-18	189.82 tons
2014-15	158.45 tons	2018-19	178.38 tons
2015-16	160.35 tons	2019-20	179.22 tons

**Recycled/Reused**

2012-13	88.24 tons	2016-17	88.03 tons
2013-14	90.84 tons	2017-18	60.12 tons
2014-15	85.06 tons	2018-19	81.29 tons
2015-16	66.16 tons	2019-20	101.20 tons

**Non-Hazardous Waste**



2012-13	8,715 lbs
2013-14	6,881 lbs
2014-15	7,798 lbs
2015-16	8,257 lbs
2016-17	9,174 lbs
2017-18	9,174 lbs
2018-19	7,293 lbs
2019-20	9,036 lbs

**Non-Hazardous Waste:**

Vinyl\*, UV and Screened Adhesive Water-Based Inks.

*\*Vinyl is hazardous, but it is sent with UV for disposal (to be incinerated with the barrel)*

lbs are based on 458.7 lb drum

**Hazardous Waste**



2012-13	3,211 lbs
2013-14	3,670 lbs
2014-15	3,165 lbs
2015-16	3,211 lbs
2016-17	2,890 lbs
2017-18	3,211 lbs
2018-19	4,587 lbs
2019-20	4,587 lbs

**Hazardous Waste:**

Still Bottoms (waste solvents) - the sludge from the rags to clean the screens)

lbs are based on 458.7 lb drum

Non-Hazardous & Hazardous Waste: Some numbers have been adjusted due to additional, more precise documentation provided.

To determine poundage: Total Gallons = # of drums x 55 (approximate gallons per drum) | Total Pounds = Total Gallons x 8.34 (lbs per gallon)



awards • recognitions • certifications • reporting

# accomplishments

## green masters program

The **Wisconsin Sustainable Business Council** named Empire Screen Printing as a Green Professional within its Green Masters Program in August 2020. Recognizing sustainable actions by businesses from across the state of Wisconsin, the Green Masters program works to identify businesses that have taken at least one action within each of the nine pillars of sustainability. Participants in the program receive recognition for their sustainability accomplishments and develop ideas for future sustainability actions.



Empire recently purchased a new Dane Wash 250 washing unit in their screen making department. This unit reclaims up to 10 large screens at a time. It features a closed recirculating system, keeping water and chemicals contained. Two-thirds of the water used is recycled and used again throughout the process. With this improvement, Empire is expecting to see a 25-50% reduction in cost and water usage.

Each year at the Wisconsin Sustainable Business Council Conference, the current top 20 percent of companies that applied during the calendar year are identified and recognized as the Green Masters level companies.

“We are changing what is possible in our industry by manufacturing with sustainable methods,” says John Freismuth (President, Empire Screen Printing). Green Master’s recognizes that and helps tell our story.”

## wisconsin manufacturer of the year nominee



The **Wisconsin Manufacturer of the Year Award** for 2019 took place in Milwaukee, WI on February 20, 2020. The award highlights significant accomplishments within the manufacturing industry from companies leading the way for future generations.

Companies from across the state applied in four separately sized groups: small (1-99 employees), medium (100-199 employees), large (200-399 employees) and mega (400+ employees). Empire was nominated in the Large Category. with 277 employees.



*Doug  
Billings*

## a new impact on the industry

The Printing United Alliance (PrUA) is a new entity - the result of a recent merger between two prominent, nonprofit associations within the Printing and Graphic Arts industries. The Specialty Graphic Imaging Association (SGIA) was a trade association representing the screen and digital printing community worldwide. Printing Industries of America (PIA) was the world's largest graphic arts trade association, representing thousands of member companies.

On May 1st of 2020, SGIA and PIA merged to create the largest member-based printing and graphic arts association within the United States. Because of this merger, PrUA, and the printing industry in general, now have complete access to resources such as trainings, workshops, events, legislation and government representation, safety and environmental sustainability guidelines, and resources from the leading media company in the industry (NAPCO Media).

**Empire's VP of Sales & Marketing, Doug Billings** is an active member of the IAPE committee, which he joined back in October of 2019. Doug quickly recognized his passion for strengthening the printing industry, especially within his segment of the industry. Having recently joined IAPE, he's learned about the committee and its role within the industry. He greatly values PrUA because they help to support the IAPE's mission of education, networking, and illustrating how to good stewards of the environment.

As stated by Doug, "Printing United is helping to strengthen the industry for future generations. I feel they are letting go of the past and working to re-imagine themselves as a go-to knowledge base and print advocate for the world's printers." The organization has allowed him to not only expand his knowledge within the industry, but to network with other professionals in similar roles as him. Printing United has provided "New Ideas, solutions to problems, and valuable friendships."

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SOLUTIONS**  
*to problems, and valuable friendships.*  
*-Doug Billings,  
VP of Sales & Marketing*

# STAKEHOLDER RELATIONSHIPS



## raising awareness

Changing a culture or an industry can only be done through hard work, determination, validation, and constant attention.

# PARTNERS



# IN PRINTING

## stakeholders/raising awareness

Changing a culture or an industry can only be done through hard work, determination, validation, and constant attention. We do this through our website, social media campaigns, newsletters, awards, employee engagement, and being members of our community and industry associations.

As members of the following organizations: Printing United Alliance, Epic21, National Association of Graphics and Product Identification Manufacturers, Great Lakes Graphics Association, Printing Industry Midwest, and alumni of the Sustainability Institute, this allows us to network with like-minded businesses and leaders to better understand our own company philosophy and successes while improving through others.

Another major aspect of building awareness is through our Partners and Printing Expo. This biennial show was scheduled for July 2020, but due to COVID-19, we have rescheduled the expo for July 2021. The first show in 2010 was a small group of employees who organized the first national sales meeting at Empire Screen Printing in Onalaska, Wisconsin.

What started out as an opportunity to bring our national sales reps together to network ideas through print education turned into a multifaceted mission: to provide education on printing, promote the industry and its suppliers, provide unique networking opportunities, illustrate how to be good stewards of the environment, and leave a legacy for future generations.

Today, this show has grown to surpass our on-site capacity where the Partners in Printing Expo was formed. It is now located at the La Crosse Center, in downtown La Crosse, Wisconsin.

We see our biennial expo as a tool to do our part to strengthen the printing industry by working together, sharing, and collaborating with other printing companies. We do not look at other printers as a threat to our business but as partners. Our competition motivates us to perform at higher levels, encourages innovation, and forces collaboration and out-of-the-box thinking.

The expo showcases key suppliers not just for screen printing, but also digital, flexographic, lithographic, and offset markets. Partners in Printing is focused on the whole printing industry, not just a single segment. This allows attendees to look for new avenues of growth, from expansion with new equipment and growth opportunities in new segments.



# FUTURE GOALS



FISCAL YEAR  
**2020-2021**  
Oct. 2020-Sep. 2021

## environmental improvement goals

- Objective #1 Reduce annual landfill waste
- Objective #2 Implement sustainable print methods
- Objective #3 Implement sustainable equipment in manufacturing process
- Objective #4 Make improvements to EMS

# 2020-2021 future goals

## Objective #1

Reduce our annual landfill waste to 23.85% by 2022.

Empire Screen identified 2012 as the baseline year for setting a waste reduction goal. In 2012, 47.69% of waste generated was sent to the landfill. By 2022, Empire Screen will reduce the waste sent to the landfill by 50%, with an annual reduction of 2.39%, resulting in no more than 23.85% of all the waste generated being sent to the landfill.

### Action Items for 2020-21:

- Reduce waste from Graphium and Flexo roll machines
  - » *Research choppers to be used for the rolls after rewind, so waste can be sent for energy.*
- Begin to utilize the 2-color prototype roll-to-roll screen press in production, which will have minimal waste.

## Objective #2

Implement sustainable print methods with equipment using UV LED technology.

1. **Empire Screen will continue with design and creation of UV LED Roll-to-Roll screen print presses. These presses have no comparative in the industry and no baseline. This will be established as we enter these presses into job production.**
  - a. **Two-Color UV LED Roll-to-Roll screen print prototype press to be entered into full production**  
The two-color prototype will begin printing production jobs. This will help to set a baseline for material and energy usage. \*Note: this press will eventually be incorporated into a four-color roll-to-roll (see Objective 2C)

### Action Items:

- » *Add a 2nd table to make it a two-color press.*
- » *Begin printing production jobs by December 2020.*
- » *Hire a 1st shift operator by February 2021.*
- » *Set a baseline for material and energy usage.*

- b. **Build a Two-Color UV LED Roll-to-Roll screen print press**

To be completed in June 2021.

### Action Items:

- » *Use the programming and schematics from the prototype machine.*
- » *Use a CNC milling machine to create the individual parts needed for construction.*
- » *Construct and assemble the press.*

- c. **Build a Four-Color UV LED Roll-to-Roll screen print press**

This will be a two-year project, to be completed by December 2022.

### Action Items: Year One:

- » *Reprogram for four colors*
- » *Use a CNC milling machine to create the individual parts needed for construction.*
- » *Construct and assemble the press.*

### Action Items: Year Two:

- » *Dismantle the two-color prototype and incorporate into the four-color press.*

## Objective #3

### Implement sustainable equipment used in manufacturing process

#### 2. Research different reclaiming attachments to be used with the automatic screen-washing unit.

This is a continuation of last year's objective to achieve a system that can clean the water enough to be re-used on screens and reduce our water/tons usage by 25-50%. This will be completed by September 2021.

##### Action Items:

- » *Research various types of units.*
- » *Set up appointments with Reps to come to the facility and observe our process.*
- » *Establish the most effective unit that will re-use both the developing and reclaiming, and work within a 3-month rotation.*

## Objective #4

### Make improvements based on our 2019 external audit

Reevaluate and rate the aspects and impact resolutions based on the new scoring system, as well as updating all documentation. This is a continuing objective due to setbacks in 2020 with our Covid policies that were implemented, so the deadline for this extension will be extended to 2022 fiscal year.

##### Action Items for 2020-2021:

- » *Research ways to do a telecommunication meeting until Covid restrictions have been lifted.*
- » *Choose a test department for the first meeting. Send the questionnaire to the department supervisor; to be handed out to the entire group.*
- » *Green Team member(s) will arrange a meeting with the department's supervisor and lead. Using the Departmental Sheet, ask questions directly related to their department regarding risk and opportunity (for improvement).*
- » *We will set a goal of meeting with 25-30% of the departments.*

##### Action Items for 2021-2022:

- » *Finish meeting with departments (both shifts).*
- » *The Green Team will update the Impact/Aspect Master file.*
- » *Follow-throughs will be done every 1-2 years, to allow for turnovers, new employees, and new equipment.*

### Appendix 1: Environmental Metrics

Respond with the units requested here. If you don't collect this information, please mark N/A.

Data will be used to calculate the cumulative environmental impacts of Green Tier participants on Wisconsin's natural resources and economy.

General Information	Quantity	What we are looking for:	Why we ask:
Baseline year	2013	The baseline year provided in your Green Tier application or the year used to track progress	Used to contextualize improvement against a baseline for each metric and goal
Employees	280	Number of employees at end of period	Collected to evaluate size and eligibility for Small Business Assistance programs
Sales or Production	-7.74%	% change on previous reporting period (+/-%)	Used to understand scale and efficiencies in % change on normalized data
Local Purchases	No data available	% of purchases made within 100 miles	Used to assess <a href="#">Life-cycle decision making</a>
In-State Purchases	No data available	% of purchases from other WI businesses	Used to show economic contributions to WI
Green Tier Purchases	0	% of purchases from other participants	Used to show Green Tier interactions

METRIC	Quantity	Units	Baseline Value	% change
<b>WASTE</b> <i>Baseline: 2012-13</i>	Include all waste generated at facilities covered by your EMS			
Solid Waste Generated	429.32 tons	tons/year	369.64 tons	+ 16.15%
Waste Recycled or Reused*	280.42 tons	*units vary by waste type	193.35 tons	- 45.03%
<a href="#">Universal Waste</a> Generated	No data available	pounds/year	-	+ or - 0%
<a href="#">Hazardous Waste</a> Generated	4,587 lbs	pounds/year	3,211 lbs	+ 42.85%
Manufacturing with recycled/reused content	0	% of total materials	0	0%
<b>WATER</b> <i>Baseline: 2019</i>	Include all water used at facilities covered by your EMS.			
Municipal water	N/A	Gallons/year	-	0%
Well water	Not monitored	Gallons/year	-	0%
Water recycled/reused	No data available	Gallons/year	-	0%
Wastewater Discharged	282,400	Gallons/year	baseline year	0%
<b>ENERGY</b> <i>Baseline: SEE BELOW</i>	Include all energy from traditional and renewable resources used at facilities covered by your EMS			
Electricity Provider	Riverland	We will calculate carbon emissions from energy inputs of the utility		
Electricity	3,142,880	kWh/year <i>[Riverland] B: 2013</i>	4,338,160	- 27.55%
<i>[1 therm = 100,000 BTUs]</i> Natural Gas	5,873,900,000	Btu/year <i>[Xcel Energy] B: 2014</i>	8,966,200,000	- 34.49%
Coal	N/A	Tons/year	-	0%
Propane (LP)	no data available	Gallons/year <i>B: 2019</i>	-	0%
Diesel (Emergency Generator)	1,549.3	Gallons/year <i>[Newman Oil] B: 2019</i>	(baseline year)	0%
Fuel Oil (#5)	N/A	Gallons/year	-	0%
Renewable Energy	N/A			
% of total energy				
<a href="#">RECS/Offsets</a> (% of total renewable item)				
<b>AIR</b>	Include totals from your processes (provide fractions if available for PM 2.5 & 10)			
<a href="#">Total Particulate Matter (PM)</a>	no available data	Lbs/year	-	0%
<a href="#">Volatile Organic Compounds</a>	15,267 lbs	Lbs/year	11,965 lbs	+ 27.60%
<a href="#">Ozone-depleting Substances</a>	100 lbs	Lbs/year	100 lbs	0%
<a href="#">Greenhouse Gas Emissions</a>	no available data	Lbs/year	-	0%
<b>TRANSPORTATION - FLEET</b>	Include totals for vehicles you own or lease			
Hybrid Vehicles	2	# of vehicles	4	-50%
Gasoline Used	bill is itemized	Gallons/year	-	0%
Diesel Used	bill is itemized	Gallons/year	-	0%
Alternative Fuels Used	N/A			
Consumption (show units)				
<b>TRANSPORTATION - OTHER</b>	Information on other transportation modes			
Air Travel	N/A			
Commuter Solutions				



## Appendix 2

### EMS Audit Information

#### Internal Audit Summary: Tier 1 Participant

An internal audit was performed on 08/06/2020.

Six minor nonconformances have been recorded. They primarily involve improving our EMS documentation and training records. MNC corrective actions will be implemented, documented and reviewed within the first quarter of the next fiscal year.

The auditor noted that everyone was very helpful and they want to move forward in the EMS to improve the process and make positive changes that affect Empire Screen Printing's environmental aspects and impacts.

#### Management Engagement

At Empire, we follow the EOS Traction organizer. Each week, our upper management team holds a level 10 meeting. During these meetings, we go over the company scorecard, rock review, employee and/or customer headlines, issues list, and our IDS (identify, define, and solve).

Any audit-related findings are discussed and reviewed. Action items are outlined, and a person is identified to follow-up and make sure the items are implemented. Items that can be solved in a week go on the issues list. Items that may take longer would be identified and placed on someone's 90-day rocks.

At the end of the year, this team holds longer management review meetings to discuss successes and items that were not completed and why. During the management review, we define the company's vision and future goals in a five, three, and one-year format.

90-day rocks are defined and implemented at the management level that supports the company's long-term goals and objectives. Our EMS system fits within this model, and our sustainability efforts are incorporated into our company visions and long-term goals and marketing and sales strategies.