



# Barbizon Specifies the Right Infrastructure for Scalability and Sustainability

WHEN LOOKING FOR EXPERTS IN LIGHTING, THE PERFORMING ARTS, BROADCAST & AV INDUSTRIES LOOK NO FURTHER THAN BARBIZON LIGHTING COMPANY

*This paper was developed based on an interview with Tobin Neis, Marketing Director for Barbizon Lighting Company, a fully integrated, specialized lighting company. In it, Tobin shares his thoughts on Barbizon's New Lighting Initiative, the advantages of moving to LED's & the importance of proper infrastructure.*

## THE HISTORY

With over 60 years of experience Barbizon Lighting Company has set the standard for providing innovative lighting solutions with top notch results and highly satisfied clients.

From its post World War II roots, and its growth from supplying light bulbs to fully integrated lighting solutions, the company has maintained a simple but powerful dedication to take care of their customers. This service driven philosophy has served Barbizon well, and the company now enjoys both a national and global presence specifying leading products and systems while servicing television, film, theatre, houses of worship and entertainment facilities around the world.

Their latest venture, The New Light Initiative, brings sustainability to the forefront of their services and sheds light on the potential benefits and value of alternative lighting sources.

## HOW IT ALL BEGAN

After returning from World War II, two soldiers - turned friends, Sid Bloom and Sam Resnick, decided to go into what they felt would be a solid and successful business - light bulbs and electrical supplies.

Hailing both from Brooklyn, the men had known each other casually before the war. As they entered business together, they learned the ropes working for an electrical distributor and in 1947 became the official

owners of the business that today is known as Barbizon Lighting Company.

From the start, the partner's business & management skills complimented each other perfectly. They were diligent about teaching their staff about the products and about great customer service.

The early Barbizon Lighting Company had four employees and a product line that ranged from light bulbs to toaster ovens and toy trains. Since that time, the company has steadily grown to become the well respected powerhouse it is today with 14 offices around the nation and the world.

## INTERVIEWING TOBIN NEIS

With Barbizon since 1996, Tobin Neis, handles the marketing for the entire organization. His focus often centers on educating end users and consultants to enable them to better understand the latest gear that is available, new innovations in lighting solutions, emerging technologies that drive change and the ROI value of alternative lighting sources such as LED's.

With regard to identifying the value of LED's, part of this determination is understanding what the power loads are - and being able to benchmark them before and after equipment upgrades and changes. To do this, the systems group at Barbizon often relies upon LynTec RPC panels for their ease of use, flexibility and web based reporting and monitoring capabilities.

Tobin states, “We use LynTec in key studios, projects that don’t require dimming and in environments like museums, theme parks, and just about anywhere where the lights are always on or need to be monitored and controlled. “ With particular relevance to entertainment lighting, he adds, “the strange part is that every job is different, but LynTec serves as another great tool in our Swiss army knife of solutions. They have been great about coming up with new ideas and we are very pleased to see all of the new control options.

Before we started using their panels, we controlled panels with contact closures, but with the RPC line we have more options for control and we can support both the audio on a

panel as well as the LED’s. What’s more, there are no grounding issues with the LED’s and the LynTec panels.



This makes the systems a little more foolproof and a lot more user friendly.”

## THE Q & A BEGINS

As the undisputed leader in lighting solutions, we asked Tobin for his feedback on several key questions.

**Q Are the engineers receptive to accommodating the install of a LynTec panel and why?**

**A** Yes, they like it because it is a Square D panel and this is what they are used to dealing with. A dimming rack for a smaller contractor in a smaller market can require a lot more project management but

a Square D panel with LynTec controls in it is something that they see regularly.

**Q How is Barbizon looking to achieve its sustainability goals?**

**A** We have gone through our own internal processes and we are trying to be more ecologically sound. In this day and age we just try to help people identify ways to save money and we continue to educate our customers and our employees on the best solutions that can do this.

**Q What do you feel is important to understand about LED lighting and energy efficiency?**

**A** With most cases and the energy efficient lighting on the market today, “you get what you pay for”; an LED may last for 50,000 hours but the electronics behind the LED’s will not last the same. This means that your electronic circuit will die before the front end will fail. Buyers have to know – you get what you pay for and the cheapest solution is rarely the best solution.

**Q How do you provide clients with the options to make the product choices they need to in order to meet their project needs?**

**A** When we put together a system we usually provide clients three options – Mercedes/Chevy/Kia – the one in the middle can be fine but more importantly, we make sure that we build options that are scalable and that give the client a place for the system to move to. Invariably, clients don’t have enough money to do what they want to do off the bat but they want the greatest bang for the buck. So we focus on the infrastructure - the conduit, the wire ways, all of the places where you can provide future scalability and where their systems can grow into.



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Having the right infrastructure in place means having the best relay panels so that you can “plug in” when you need to grow.

With the right equipment upfront, you can include the relays and circuits you need for day one and still have scalability for day 2 and beyond. You don’t have to put the whole thing in right away. Not having the proper infrastructure in place can mean very expensive retrofits in the future – this message gets lost too often.



The RPC panels provide a way to access and control the AV / sound equipment and enable the proper sequencing for turning on and off systems.

## BARBIZON’S GREEN PHILOSOPHY

### Q What is Barbizon’s thoughts on green?

A Barbizon’s commitment to sustainable practices encompasses our own operational efforts as well as encouraging sustainability in our industry through research and education.

Sustainability in any form is most successful as a choice. Our New Light Initiative has been created to ensure that people have the information needed to make good choices in sustainability.

## THE NEW LIGHT INITIATIVE

Always on the forefront, Barbizon is committed to helping clients meet their energy reduction goals and do their part to work towards a more sustainable world. Their New Light Initiative is their latest program.

### Q What is the New Light Initiative all about?

A Barbizon’s “NLI” team is working within our organization to implement sustainable practices into all facets of Barbizon’s operations. We are also developing educational materials to be used both internally and externally to promote sustainable practices.

The lighting systems in theaters, television studios, and even in houses of worship are among the least energy-efficient parts of those buildings. Cutting energy consumption, whether in a new



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## ABOUT BARBIZON

In business since 1947, Barbizon is the one-stop source for sales, service, installation & integration of lighting equipment and accessories. The company carries more than 20,000 products in stocking locations around the world & represents hundreds of manufacturers. Their inventory includes virtually anything you could need for lighting & rigging in a variety of industries such as:

- Theater
- Television/ Studios
- Film
- ENG/EFP
- Worship
- Production and A/V
- Themed Environments/Retail
- Wholesale/Resale Supply



## ABOUT TOBIN NEIS

Tobin Neis is the Director of Marketing for Barbizon. His varied background includes work in industrial and traditional theater, museums, broadcast, and corporate audiovisual environments. He holds an undergraduate degree in Political Science from the University of Wisconsin at Madison and a MFA in Theatre Technology from Indiana University. Tobin is a member of the Illuminating Engineering Society of North America (IESNA), the United States Institute for Theatre Technology (USITT) and is on the Board of Directors for the ESTA Foundation. Visit [www.barbizon.com](http://www.barbizon.com) for more information on the firm, or reach Tobin at [tneis@barbizon.com](mailto:tneis@barbizon.com).

building or throughout an existing system, can be an overwhelming task for a facilities manager, technical director, or staff technician.

That is why many in the industry rely on Barbizon's expertise to help them create a sustainability plan that is tailor-made for a specific facility's needs and usage.



Barbizon's staff includes a full-time LEED-accredited professional who understands the technology and benefits of the wealth of products available as well as the application challenges of a lighting system. This enables the firm to be uniquely positioned to provide the energy efficient solutions for the entire lighting system that meet your technological and design requirements.



When discussing lighting and energy efficiency, one of the most common topics these days is the movement toward LED lighting and the ROI that this can provide.

## ABOUT LYNTEC

*LynTec brings to market electrical protection and circuit switching capabilities in the same enclosures. In doing so, the company has always found ways to save space, lower system installation costs and build trusted relationships with audio system and lighting designers. Its expansion into electrical and lighting controls, and now its growth into expanded lighting control, energy monitoring, built in power conditioning, and mobile applications continues to position the company as a leading resource for the AV and lighting industries and an integral partner for sustainable energy practices. For more information visit [www.LynTec.com](http://www.LynTec.com).*

# LynTec

## THE COST ADVANTAGES OF LED LIGHTING

LED power supplies, fans and processors are not made to stay on all of the time. To extend the life of the fixtures and to save energy, they need to be turned off. At a recent PLASA Focus show, Tobin presented a seminar on the cost advantages of going to LED lighting. A part of the seminar was on the importance of turning the fixtures off when not being used to save energy, but more importantly to extend the life of the fixture and protect the customer's investment. Here, LynTec panels and web based monitoring and reporting tools can provide clients with access to data and information to support energy savings and to identify for clients their return on investment. Here are some of the ways Tobin shared during his session that can help clients determine ROI.

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NASHVILLE | JULY 11-12, 2012



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When assessing the potential cost savings it is important to first understand your current lamp information which should include the following:

- How many fixtures
- Cost of replacement lamps
- Expected Lifespan (hours)
- Maintenance (Hourly Rate in \$'s)
- Not just salary, it's all the rolled in costs
- How much time to change lamp (minutes per fixture)
- Average use per week in hours

Next, you need to understand some specifics about your intended new/replacement lamps including:

- How Many Fixtures (note this is not always 1 to 1)
- Cost of lamp / fixture
- Expected Lifespan (hours) / to LM70 for LED  
Note: LM70 is at what point in time (hours) does the LED reach 70% of its initial output.  
LM stands for "Lumen Maintenance"

Estimated electrical costs can be identified by using the following formula:

Total Wattage x Hours Used Weekly ÷ 1000 x Price per kwh

You also need to estimate AC costs, considerations for these will include:

- Cooling Weeks / 52 x Fraction of Lighting
- Load as Heat (.9) / Cooling System
- Coefficient of Performance (2.7)  
Note: For most packaged commercial cooling units the COP varies between 2.5 and 4.0. The higher the COP, the more efficient the system. The .9 value of lighting load as Heat (90%) is a general HVAC rule via DOE.

#### Make sure to identify rebates

There are a lot of institutions that have funds earmarked for energy efficient upgrades. It is worthwhile to find out if your facility or planned upgrade meets the requirements for this.



To calculate your ROI – use the following:

$$\text{ROI (\%)} = \frac{\text{Annual Savings} + \text{Total Rebates}}{\text{\# of Fixt} \times \text{Installed Cost per Fixture}} \times 100$$

$$\text{ROI (yrs)} = \frac{\text{Total Installed new Lighting Cost}}{\text{Yearly Savings in AC \& Maint}}$$



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Here's a sample of an analysis for a large gymnasium. Note the payback period and yearly cost savings for an LED investment (marked in green).

## BASIC ROI ANALYSIS WORKSHEET Large Gymnasium

Fixtures to be Replaced		Bulb Data	
		Fixture Quantity	Cost (ea.)
400W MH	30	\$ 35	15500

  

Light Type	Watt Calculation			Power Analysis			Bulb Analysis		
	Watts per Light	Total Watts	Total KW	Cost/ KWH	Cost per Week	Cost per Year	Bulbs per Unit per Year	Total Bulbs per Year	Total Bulb Cost per Year
400W MH	400	12,000	12	\$ 1.44	\$ 129.60	\$ 6,738	0.30	9.06	\$ 317
	0	0	0	\$ -	\$ -	\$ -	0.00	0.00	\$ -
	0	0	0	\$ -	\$ -	\$ -	0.00	0.00	\$ -
	0	0	0	\$ -	\$ -	\$ -	0.00	0.00	\$ -
	0	0	0	\$ -	\$ -	\$ -	0.00	0.00	\$ -
	0	0	0	\$ -	\$ -	\$ -	0.00	0.00	\$ -
	0	0	0	\$ -	\$ -	\$ -	0.00	0.00	\$ -
	0	0	0	\$ -	\$ -	\$ -	0.00	0.00	\$ -
<b>Total</b>		<b>12,000</b>	<b>12</b>	<b>\$ 1.44</b>	<b>\$ 129.60</b>	<b>\$ 6,738</b>		<b>9</b>	<b>\$ 317</b>

  

Kilowatt Per Hour cost (\$0.00)	0.12
Cooling Weeks per Year (see table)	35
Maintenance hourly rate (\$/hr)	65
Time to Change (1) Bulb (mins)	30
Average usage per week (hours)	90

  

Replacement Fixtures	Quantity	Price	Watt Calculation			Power Analysis		
			Watts per Light	Total Watts	Total KW	Cost/ KWH	Cost/ Week	Cost/ Year
LED HI BAY	40	\$ 750						
<b>Totals</b>		<b>\$ 30,000</b>						
Manufacturer's stated LED life (LM70)	85,000.00							

  

Annual Cost Analysis	Existing Fixtures	LED	Yearly Savings	Cost: Wattage x Hours Used + 1000 x Price per kwh = Cost of Electricity	A/C: Cooling Weeks/ 52 x Fraction of Lighting Load as Heat ( 9) / Cooling System Coefficient of Performance (2.7)	Labor: Number of bulbs to be changed per year x Time per Bulb
Power for A/C	\$ 1,512	\$ 575	\$ 937			
<b>Total Power Costs</b>	<b>\$ 8,251</b>	<b>\$ 3,135</b>	<b>\$ 5,116</b>			
Labor	\$ 294	\$ -	\$ 294			
Bulbs	\$ 317	\$ -	\$ 317			
<b>Total Costs</b>	<b>\$ 8,863</b>	<b>\$ 3,135</b>	<b>\$ 5,727</b>			
Payback Period	5.2	Years				
Time to LED Replacement	13.9	Years	(Based on Manufacturers published LM70 ratings)			

## SUMMARY OF ROI ANALYSIS

The example above shows a payback period of 5.2 years for the initial investment and a significant yearly cost savings for LED fixtures over existing fixtures particularly with regard to the power for lights and AC costs, followed by savings in labor and bulbs.



## FINAL THOUGHTS

In a market very often driven by price alone, Barbizon is not always the cheapest solution. Instead they rely on designing innovative systems that start with a strong foundation and often include LynTec panels for power and lighting control. With this solid core in place Barbizon builds solutions for clients that not only last, but that are built to be scalable and support a growing infrastructure and the future needs of their clients.

**ABOUT CHRISTOPHER MAIONE** - Christopher Maione is a recognized leader and expert in the AV industry with over 28 years of audiovisual expertise. His forward thinking and progressive approach to business led him to found and become the



managing partner of one of the world's leading AV consulting firms earning the company accolades as a leader in AV solutions and technologies. In his new company, Christopher Maione Associates, Maione employs the same stringent procedures and protocols that enabled his previous company to achieve global success and a reputation for the highest quality of work. Maione now focuses his attention on AV System Integrators, Manufacturers and Fortune 500 clients to help them identify strategic ways of handling their clients, products, & projects. Maione has a talent for forecasting trends and identifying emerging technologies that substantially impact the AV industry. Based on his own business model, he encourages colleagues to strive for excellence and consistently challenges the AV industry to improve its practices, grow its services, and develop better products in an effort to set a higher standard and respond to the

changing needs of clients. Well versed in all aspects of AV, IT, Integrated Technologies, Industry Standards, Green AV and best practices and protocols, Maione is an Adjunct InfoComm Faculty Member and CTS-D/CTS-I provider and serves on a variety of key industry standard committees. In doing so, he continues to set industry benchmarks for quality & compliance. For more info please contact [info@chrismaione.com](mailto:info@chrismaione.com).



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