

PEC

Propel your performance

How lighting impacts your manufacturing facility

Manufacturing challenges

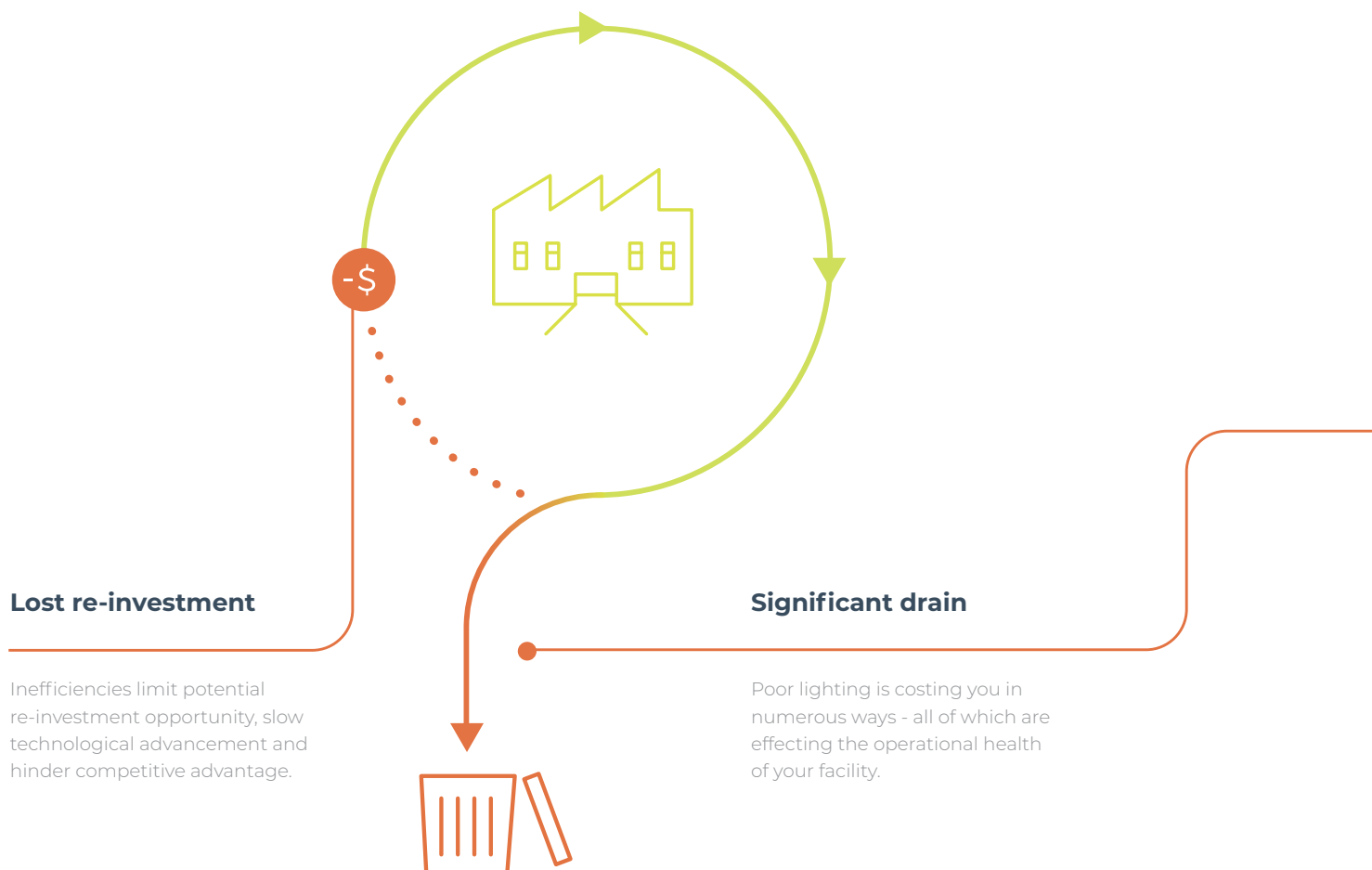
Lighting is a crucial component of every manufacturing environment. Your lighting must run consistently, efficiently, and sometimes even continuously (24/7), often in extreme conditions.

Inefficient or ineffective lighting under these trying conditions often results in costly, disruptive, and even dangerous systems.

Improving productivity, while also saving significant amounts on your energy bills is the ambition of manufacturing facility operators across the country.

Facility challenges:

- Mounting energy costs
- Vigorous competition
- Safety
- Regulatory pressures
- Environmental concerns
- Inflexible profit margins
- Cashflow concerns



Pitfalls of poor lighting

Lighting can make up 10-40% of a manufacturer's monthly energy expense. However, as crucial as operating costs are they only tell part of the story.

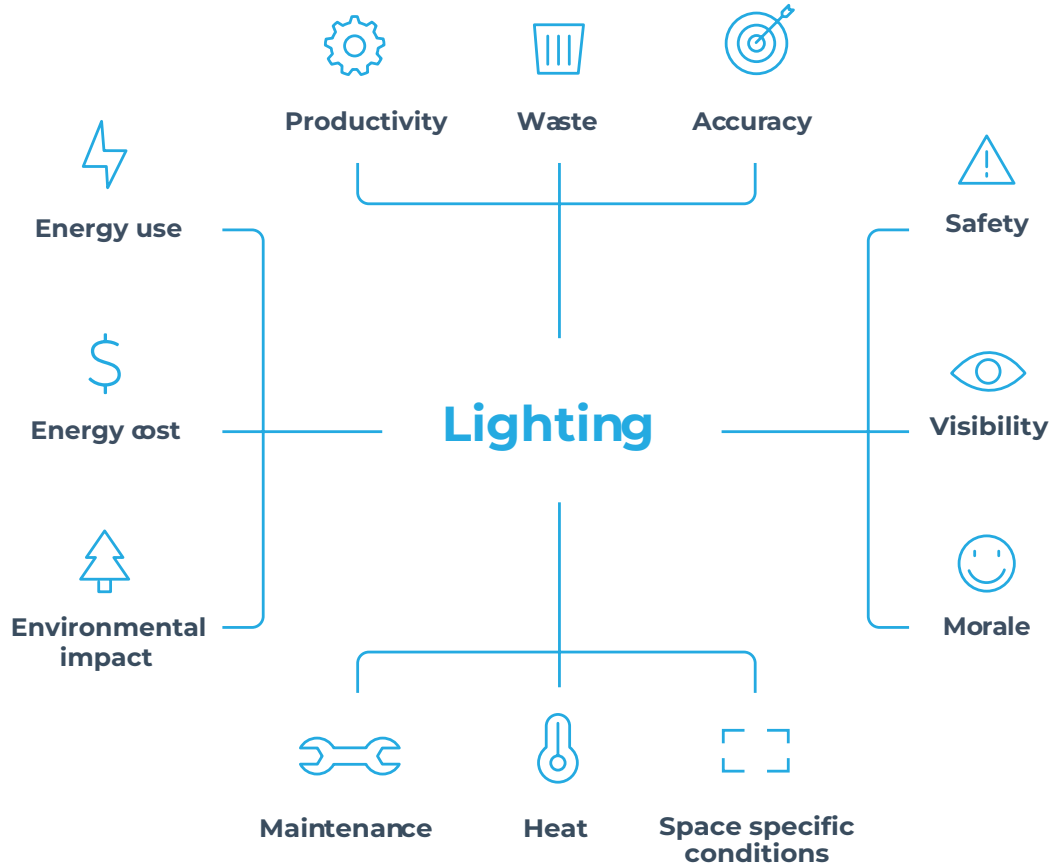
The repercussions of poor lighting can run deep into numerous areas of your manufacturing facility, critically impacting the productive health of your entire operation.

Here productivity, safety and operational costs are all intricately connected.

The bottom line is ,outdated lighting systems are costing you time, money, impaired performance, and safety.

10%-40%

**of a manufacturer's
monthly energy expense
can be from lighting**



The future is very bright

What if you could improve these issues and also save on costs? What if you could do what's best for your operations, employees and environment while saving energy?

Fortunately, the technology is here and it's use is transforming business productivity. Not only are LED lighting products cheaper and more efficient, they produce better quality light.

LED unlocks a huge amount of potential and excels in every quantifiable metric.

More than just an upgrade, LED is a step into a more profitable and productive future.



Our electrical bill has been 48-52% LESS than it was with the old lighting. Also our electrical panels are running cool to the touch, where before they were so hot your couldn't touch the breaker covers. The only problem I have is why I didn't approve it sooner!

*Vice President/CEO,
Steel Supply*



25X

Times longer lifespan than traditional bulbs



80%

Less energy than incandescent bulbs



261%

Avg. increased light levels



16%

Avg. annual maintenance savings in addition to energy savings



3+ years

Longer life time, if run 24 hours a day, seven days a week!

That's 25,000 hours or more extra life!



\$432k

Amount Weyerhaeuser save annually on energy costs after a PEC upgrade.



267%

Increase in light levels for Howser Steel after PEC. That's In addition to saving **\$11,000** per month in energy costs!



\$80K

"Our previous lighting maintenance costs were over \$80,000 – and now, our expenses don't even come close."

- VIGOR Industrial

Not all LED solutions are equal

LED solutions vary and if not properly specified and implemented can actually cost you more in the long-run. Watch out for:

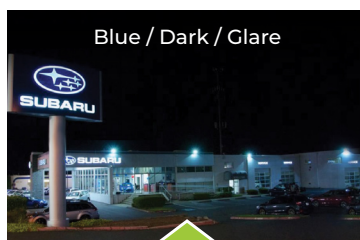
- 1) Inferior LED products and poor designs that will cost more over time, don't last long, and don't produce appropriate or improved light levels
- 2) Dangerous and improper implementation. This can include improperly fitted and installed fixtures with mass failure rates. These have been known to cause damage including fires!
- 3) Poor value. Many LED lighting installations miss out on 50-70% of the lifetime value from an optimized system.

How PEC does it:

- ✓ Take comprehensive light level readings of your facility and look at IES industry standards
- ✓ Specify your specific lighting needs and recommend high quality, appropriate solutions
- ✓ Have qualified PMs manage your installation



Brightness



Blue / Dark / Glare

Both facilities purchased a "LED upgrade"



White / Bright / Uniform

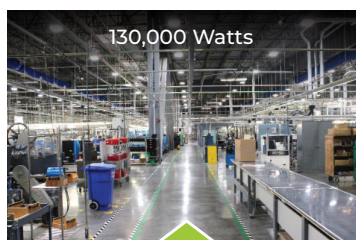
Both car dealerships are 100% LED

LED fixtures range from 1,000 to 100,000+

Largest lumen variance in lighting history



Power use



130,000 Watts

One consumes 85% more power



70,000 Watts

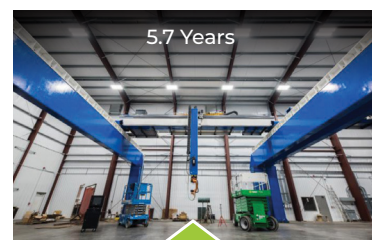
Both LED systems produce the same amount of visible light

Light levels no longer directly correlate with system wattage

LEDs range from 50 lumens Watts per watt to 200+

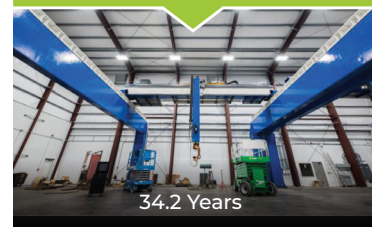


Lifespan



5.7 Years

One will last 28.5 years longer



34.2 Years

Both LED systems produce the same amount of visible light

Useful lifetime ratings have the largest discrepancy in lighting history

The PEC impact: Weyerhaeuser

Challenge

Weyerhaeuser has industrial facilities across the country, many with outdated HID and fluorescent lighting. Weyerhaeuser has internal light level requirements that are recommended for every application and work environment. With every site being unique, it proved difficult to hit their light level requirements with fixtures that were durable and long lasting. Weyerhaeuser wanted to improve production and safety conditions, lower operational costs and create a better work environment.

Solution

A full-site, turn key lighting project that is designed with photo-metrics and 3D renderings for each specific facility and environment. A one size fits all approach did not work for Weyerhaeuser. From audit to design to install, each site was unique and required different fixtures, controls and solutions to hit light level requirements and maintain durability. The combination of annual energy savings, maintenance savings and local incentives justified these projects with a quick return on investment.



3,057,499 kWhs
Displaced energy



2.43 years
Rate of Return on Investment



\$655,686
Covered by incentives



\$432,067
Annual energy savings

Meet our experts

Pacific Energy Concepts is North America's most innovative energy optimization company. We deliver custom LED lighting solutions that help our customers run efficient, save money and work happy.

We use our deep knowledge of the lighting industry to help propel performance metrics across our clients' businesses.

Our expertise designing, developing, and deploying targeted solutions in complex and specialized environments is why brands like Costco, IKEA, Jeld-Wen and Alaska Airlines (to name a few of the 5000 companies we work with) put their trust in us.

**Others change lightbulbs.
We transform businesses.**

\$100M

Energy saved

5000

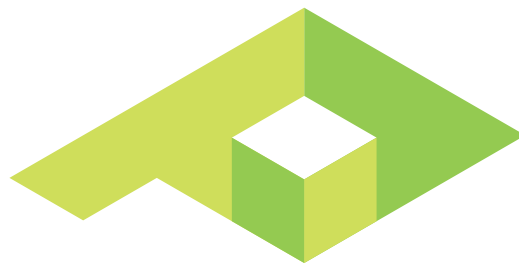
Partnered companies

Inc.5000

2019 company

7000+

Completed projects



PEC



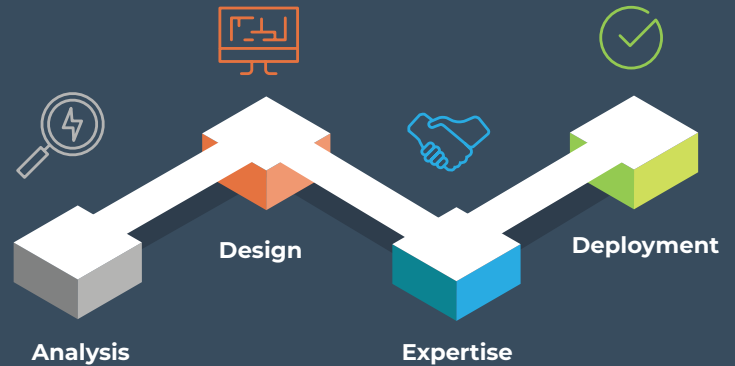
The PEC way

Traditional lighting companies will try to sell you on their lighting fixtures, without understanding how you use your space and what you're looking to achieve.

That's not us.

PEC's proprietary approach begins with a comprehensive analysis of your building's lighting system.

Our expert team develops a customized lighting solution, manages the project and incentive process from start to finish – delivering impact to your building's operations and your bottom line.



1 Energy assessment

Every project begins with a complete assessment of your unique lighting needs and objectives. We discuss how you're currently using your space, review existing technologies, and establish how we'll add value to your building.

2 Energy audit

Our team conducts a thorough evaluation of your site compiling existing infrastructure data, measuring building dimensions and performing a complete onsite level analysis.

3 Lighting design

We use 3D design software to help visualize the latest in lighting technology in your space. The result? A customized 3D model of your site incorporating our solutions — including projected light levels and photometrics.

4 Incentive management

Energy incentives are one of the most easily misunderstood aspects of a lighting upgrade. PEC guides you through the process, handling all the paperwork and capturing the most advantageous energy savings for any incentive program.

5 Project Management

You will be assigned a designated Project manager (PM) who will be your main point of contact throughout the rest of the project. They will keep you informed about what to expect, schedule contractors and arrange for material delivery and installation.

6 Installation

PEC oversees your project from start to finish, including delivery, installation, and warranty claim.

7 Completion

Once the install is done, your PM will perform an onsite 100% re-audit to confirm the project was implemented correctly. If everything meets our standards, your PM will schedule a tour with an incentive inspector

