



A TYPICAL MATERIAL MANUFACTURING PLANT WOULD NEED TO PRODUCE AN ADDITIONAL 130 STEEL PIPES ANNUALLY TO EQUAL THE MONEY SAVED BY UPGRADING THEIR EXISTING COMPRESSED AIR SYSTEM.*

Not only can material manufacturing facilities save energy by using more energy efficient equipment, but there are additional positive effects on the overall revenue and environment of the facility. By simply upgrading to LED lights and compressed air systems the following benefits can occur:

- Worker and customer comfort, safety and satisfaction
- Decreased maintenance cost
- Increased worker productivity
- Improve product quality

* Based on DNV GL study

“THE UPGRADE TO THE HUMIDIFICATION SYSTEM IN OUR KNITTING DEPARTMENT HELPS OUR MACHINES RUN BETTER, CAUSES LESS DEFECTS, AND IMPROVED THE QUALITY OF OUR PRODUCT. IT’S A WIN FROM ALL ASPECTS.”

- Katie Chapman, Sustainability Specialist, Duro - Last Inc.

Consumers Energy offers rebates, technical services and more to help material manufacturing facilities like yours become more energy efficient. Our team is here to walk you through the program requirements and available resources.

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**Material
Manufacturing
Facilities’
Hidden Benefits from
Energy Efficiency**



The Impacts of Energy Efficiency in Material Manufacturing

The following non-energy improvements can result from upgrading to energy efficient equipment:



Increased Productivity

Energy efficiency upgrades for material manufacturers support fewer production interruptions, decreasing system downtime and increasing worker productivity.



Upgrades to compressed air systems have less downtime and improve the air quality in the building. LED lights increase visibility that results in fewer product defects during production.



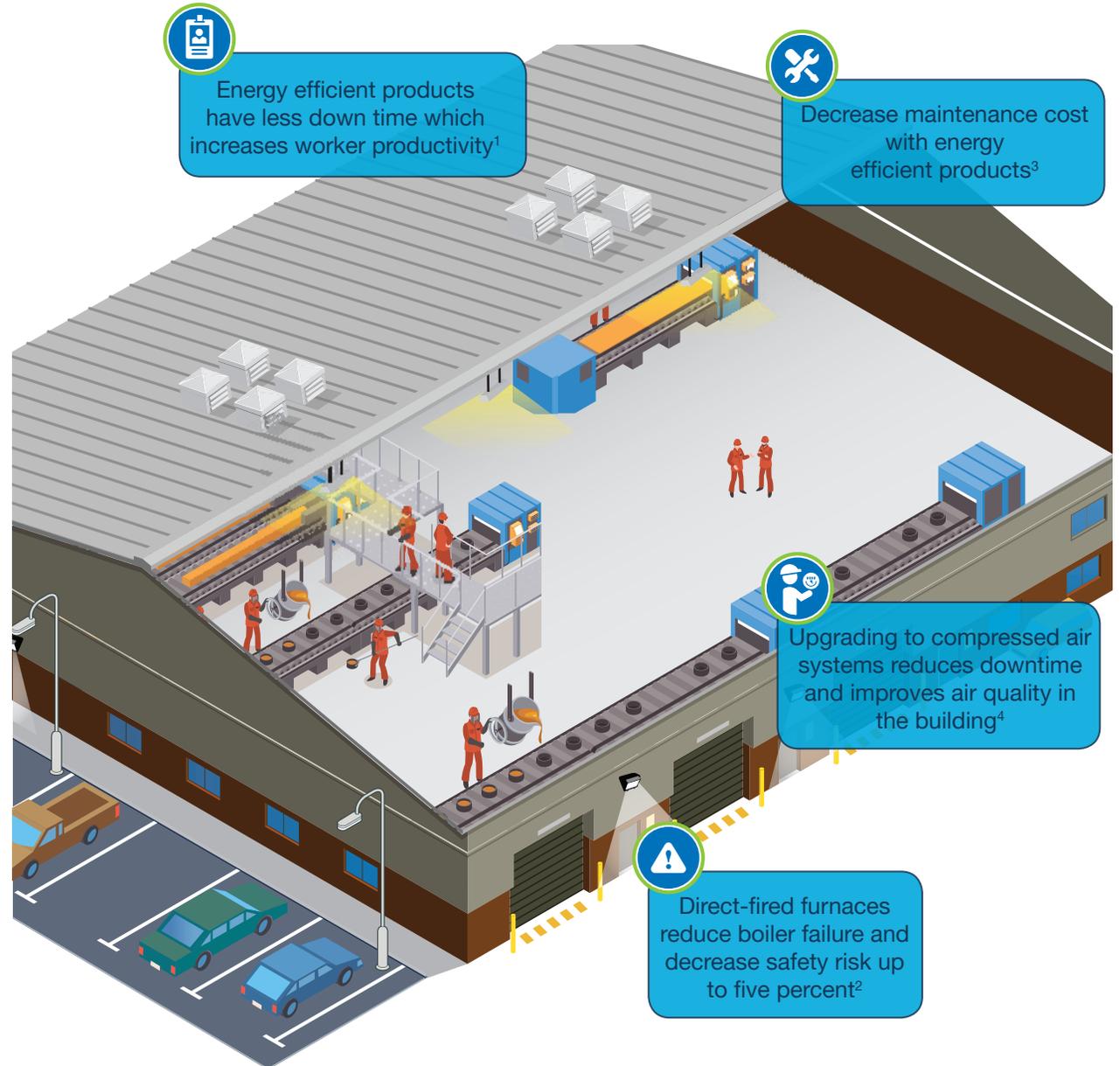
O&M Cost Savings

Energy efficient equipment can reduce the incidence of work-related accidents or negative impacts on worker health. LEDs improve employee visibility, minimizing the risk of slips and falls. Installing direct-fired furnaces does not overheat the steam boilers, reducing boiler failure and decreasing safety risks by up to five percent.



O&M Cost Savings

Energy efficient projects can lead to investments in new equipment, system optimization and changes in production resulting in lower maintenance needs and costs.



O&M Cost Savings

Equipment	Energy Savings	Non - Energy Savings	Total Savings	Energy Payback	Non-Energy Payback
Lighting	\$6,846	\$24,644	\$31,490	2.46 yrs.	0.54 yrs.
VFD	\$3,559	\$0	\$3,558	2.11 yrs.	2.11yrs.
Compressed Air	\$3,202	\$92	\$3,293	2.47 yrs.	2.40 yrs.
HVAC & Heating Equipment	\$54,407	\$0	\$54,304	2.50 yrs.	2.50 yrs.

1. 2014 PowerPoint presentation, Non-Energy Impact Marketing Analysis by Industry, Special Cross Sector Research Area [PPT]. (2014). DNV GL.
 2. Capturing the Multiple Benefits of Energy Efficiency. (2014). IEA.
 3. N. (2014). Including non-energy benefits in investment calculations in industry; empirical findings from Sweden. ECEEE Industrial Summer Study Proceedings 2014.
 4. L. (2005). "Ancillary savings and production benefits in the evaluation of industrial energy efficiency measures.". Proceedings of the 2005 ACEEE Summer Study on Energy Efficiency in Industry, Vol. 6, West Point, 19-22 July 2014, ACEEE (American Council for an Energy-Efficient Economy), Washington DC, pp. 6-103-6-114, www.aceee.org/files/proceedings/2005/data/index.htm.