Energy Efficiency Is Good For Business

ALLIANCE FOR INDUSTRIAL EFFICIENCY

Industrial U.S. manufacturers are saving money by saving energy

Companies like Crown Battery, HARBEC, Inc., Nissin Brake and United Technologies Corporation are saving significant money each year thanks to energy-efficiency improvements made possible in part through industrial efficiency utility programs.

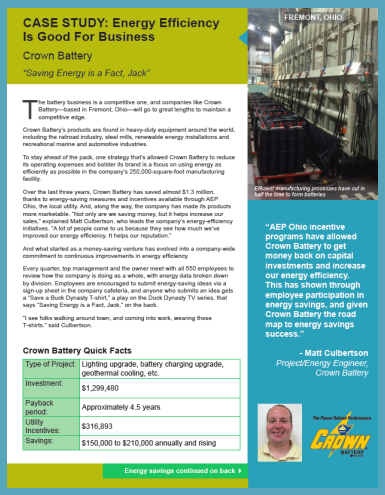
For U.S. industrial manufacturers, the potential savings are staggering. The manufacturing sector has the potential to invest more than $100 billion in cost-effective energy-efficiency technologies by 2020, which would result in annual energy savings of almost $50 billion.[1]

Too few manufacturers are aware of the potential savings and the resources available through utility efficiency programs. These programs can provide resources to help finance process efficiency, motors, and energy management systems; boiler conversions; lighting retrofits; and the installation of clean and efficient Combined Heat and Power systems.

Manufacturers that have taken the step to invest in energy efficiency are already gaining impressive paybacks. On a national scale, the more than 150 manufacturing participants in the Department of Energy Better Plants program, representing 11.4 percent of U.S. manufacturing, have reported cumulative energy cost savings of $2.4 billion. Just by continuing these efforts, this group of manufacturers could save a projected $11 billion in 2020. Better Plants partners have also reported estimated cumulative avoided carbon emissions of almost 27-million metric tons, equal to the annual emissions from seven coal-fired power plants.[2]

Big Energy Use = Big Savings Opportunity

- The industrial sector (manufacturing, mining, construction and agriculture) is the largest U.S. energy user, consuming about one-third of all energy demand.[3]
- Manufacturing accounts for the vast majority, nearly three quarters of industrial energy consumption, equal to nearly one quarter of all energy consumed.[4]
- The industrial sector is the only sector in the U.S. economy where emissions are projected to grow – with projected increases from current levels of nearly 20 percent by 2025.[5]


CASE STUDY: Energy Efficiency Is Good For Business

Crown Battery

"Saving Energy is a Fact, Jack"

FREMONT, OHIO

Crown Battery Quick Facts

Type of Project:	Lighting upgrade, battery charging upgrade, geothermal cooling, etc.
Investment:	$1,299,480
Payback period:	Approximately 4.5 years
Utility Incentives:	$316,893
Savings:	$150,000 to $210,000 annually and rising

"AEP Ohio incentive programs have allowed Crown Battery to get money back on capital investments and increase our energy efficiency. This has shown through employee participation in energy savings, and given Crown Battery the road map to energy savings success."

- Matt Culbertson
Project/Energy Engineer, Crown Battery

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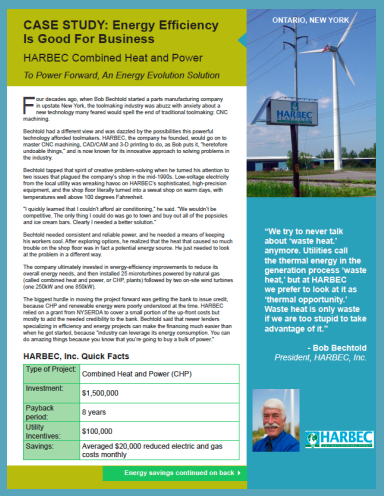
CASE STUDY: Energy Efficiency Is Good For Business

HARBEC Combined Heat and Power

To Power Forward, An Energy Evolution Solution

ONTARIO, NEW YORK

HARBEC, Inc. Quick Facts

Type of Project:	Combined Heat and Power (CHP)
Investment:	$1,500,000
Payback period:	8 years
Utility Incentives:	$100,000
Savings:	Averaged $20,000 reduced electric and gas costs monthly

"We try to never talk about 'waste heat,' anymore. Utilities call the thermal energy in the generation process 'waste heat,' but at HARBEC we prefer to look at it as 'thermal opportunity.' Waste heat is only waste if we are too stupid to take advantage of it."

- Bob Bechtold
President, HARBEC, Inc.

HARBEC, Inc. Quick Facts

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Investment: $1,500,000
Payback period: 8 years
Utility Incentives: $100,000
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[1] U.S. Department of Energy (DOE), Better Plants Progress Update, Fall 2015. http://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/2015%20Better%20Plants%20Progress%20Update.pdf
[2] U.S. Department of Energy (DOE), Better Plants Progress Update, Fall 2015. http://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/2015%20Better%20Plants%20Progress%20Update.pdf
[3] U.S. Energy Information Administration, Annual Energy Outlook 2015, April 2015. (https://www.eia.gov/forecasts/aeo/section_deliveredenergy.cfm)
[4] U.S. DOE, Report to Congress: Barriers to Industrial Energy Efficiency, June 2015. (http://www.energy.gov/sites/prod/files/2015/06/f23/EXEC-2014-005846_6%20Report_signed_v2.pdf).
[5] Rhodium Group, Taking Stock: Progress Toward Meeting US Climate Goals By John Larsen, Kate Larsen, Whitney Herndon, and Shashank Mohan, January 28, 2016. http://rhg.com/reports/progress-toward-meeting-us-climate-goals

What Manufacturers Are Saying

"Not only are we saving money, but it helps increase our sales. A lot of people come to us because they see how much we've improved our energy efficiency. It helps our reputation…My advice to other manufacturers? You need to take advantage of this. Not only does it improve your facility, but it allows you to go to market cheaper than your competitors and it frees up money for other big capital improvements."

–Matt Culbertson, project/energy engineer
Crown Battery

"Controlling our energy costs is one way to even out overall costs and to deal with production volume changes. Leveraging incentives in partnership with our utility made these efficiency projects possible."

–Dana Ware, manager of Production Support
Nissin Brake

"Industry can leverage its energy consumption. You can do amazing things because you know you're going to buy that bulk of power."

–Bob Bechtold, president
HARBEC, Inc.

Access all of the case studies here:
http://alliance4industrialefficiency.org/resources/casestudies/

This is just the tip of the iceberg. For example, check out:

- Video showing how Siemens' efficiency systems are improving life at Wesleyan College[6]
- Case study profiling how Illinois-based Continental Tire is leveraging utility incentives[7]
- Video showing how Michigan-based Wright Plastic Products collaborated with its utility to identify and implement savings[8]
- Case study profiling North Carolina-based Hickory Chair's efficiency gains with its utility[9]
- Video overview of the Combined Heat and Power opportunity[10]


CASE STUDY: Energy Efficiency Is Good For Business

Nissin Brake Ohio, Inc.

Halting Energy Waste, Accelerating Savings

FINDLAY, OHIO

"Controlling our energy costs is one way to even out overall costs and to deal with production volume changes. Leveraging incentives in partnership with our utility made these efficiency projects possible."

- Dana Ware, *Manager of Production Support, Nissin Brake*

Nissin Brake Quick Facts

Type of Project:	Lighting, compressed air, chiller and manufacturing equipment upgrades
Investment:	More than $1.67 million since 2008
Payback period:	Approximately 2-3 years for most projects
Utility Incentives:	More than $289,000 since 2008
Savings:	$3.4 million in avoided energy costs since 2008

Energy savings continued on back ›

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CASE STUDY: Energy Efficiency Is Good For Business

United Technologies Corporation Connecticut Facilities

Pacing Ahead

FARMINGTON, CONNECTICUT

Renovated open floor space design with state-of-the-art building controls and LED lighting

"At UTC, we know that sustainability works, and is a smart business and environmental decision. That's why we are committed to investing in energy efficient, green buildings for our employees, communities and customers."

- John Mandyck, *Chief Sustainability Officer for UTC*

Among the many components of the three-year plan are:

- Installing new LED interior and exterior lighting systems.
- Adding "cool roofs" with white, heat-reflecting materials and installing energy-saving window tint to buildings to lower energy costs.
- Completing HVAC upgrade projects that include chiller optimization, HVAC retro-commissioning and a water chiller study.
- Conducting several studies to ensure optimal use of compressed air, sometimes called the "third utility" in manufacturing, after electricity and natural gas.
- Developing an educational program to increase energy efficiency awareness and behavioral changes among UTC facilities managers and general staff.

Energy savings continued on back ›

United Technologies Corporation Quick Facts

Type of Project: 3-year agreement with utility to increase efficiency
Investment: Estimated investment in energy-efficiency technology $15 million over three years
Payback period: To be determined / ongoing project
Savings: $1.1-$2.3 million annually

[6] http://www.bloomberg.com/news/sponsors/siemens/this-power-solution-can-stand-up-to-the-next-superstorm/?adv=7051&prx_t=kD0CA39UHAG0ANA&ntv_idp=1
[7] http://www.actonenergy.com/portals/0/forms/continental_tire_case_study_final.pdf
[8] https://www.youtube.com/watch?v=cWLGl_D-BYo&index=25&list=PLEC4496E311217D63
[9] https://www.duke-energy.com/pdfs/hickory-chair-case.pdf
[10] https://www.youtube.com/watch?v=14lT7kfDbvo