

## Energy Webinar September 29, 2022



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### North American Lighting, Inc.

#### About North American Lighting, Inc.

North American Lighting, Inc., member of the Koito Group of Companies, is the largest automotive lighting manufacturer in North America and has been manufacturing since 1983. NAL has pioneered numerous advancements in vehicular lighting and is now working to incorporate sensing technology into its products to aid in autonomous mobility. NAL's 10 facilities in North America combined with the global network of Koito Group Companies, uniquely positions the company to meet increasing global demands for safe, energy-efficient, eco-friendly, and intelligent automotive lighting systems. For more information, visit us at [nal.com](http://nal.com).



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### NAL Energy Management

#### Summary:

Energy costs have increased significantly in recent months due to volatility in world energy markets related to global conflicts and initiatives to move toward cleaner energy sources.

NAL has mitigated the impact of the energy cost increases through strategic energy management practices.

Our practices focus on promoting energy efficiency, continual improvement of the strategic energy management program and setting and reviewing energy management objectives and their supportive programs regularly. NAL also participates with our customers in promoting energy efficiency initiative to reduce carbon emissions and energy consumption.

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**Existing Conditions:**

Rate increases related to the commodity prices of energy for both electric and natural gas have impacted utility budgets for North American Lighting significantly.

Separately, the capacity charges related to the MISO auctions to support peak demands resulted in a substantial increase in this component of the electric bills as well.

NAL mitigates the impact of these challenges through strategic energy management.

NAL's Strategic Energy Management policy incorporates the following objectives;

- Complying with applicable compliance obligations and other requirements related to its intended energy management outcomes.
- Promoting energy efficiency.
- Continual improvement of the Strategic Energy Management Program.
- Setting and reviewing energy management objectives and their supportive programs regularly.
- Participate in customer driven initiatives to reduce carbon emissions and improve efficiency.

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**Major Elements of NAL's Strategic Energy Management Program:**

- Energy Procurement
- Renewable Energy Initiatives
- Preventive Maintenance
- Building Management System
- Lighting/ Controls
- Facilities Process Control
- Utility Company Incentives



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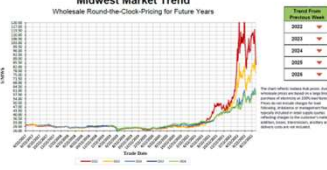
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**Energy Procurement:**

NAL procures energy through competitive markets for electricity and natural gas. Using futures contract pricing has allowed us to lock in prices to mitigate price volatility related to the commodity component of our utility bills.

The state of Illinois provides a list of vendors that can procure competitive market rates for natural gas and electricity.

**Midwest Market Trend**  
Wholesale Round-the-Clock Pricing for Future Years



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**Renewable Energy Initiatives:**

Federal and state incentive programs are being investigated. Most of the programs are focused on Solar projects with both ground mounted and roof mounted options available for consideration.

- Illinois: Illinois' Adjustable Block Program offers incentives of \$50 per MW-Hr. Funds are released in block and are available until funding has been depleted, subject to renewal.
- Federal: Recently passed Inflation Reduction Act has increased the Federal Investment Tax Credit for solar projects from 26% to 30% of the total investment in solar projects. A direct write off from the cost of the projects.



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**Preventive Maintenance :**

- NAL utilizes an automated CMMS preventive maintenance program to ensure that equipment is running at peak performance and according to design specifications.
- Plants have implemented a compressed air leak detection and repair program utilizing sonic leak detection equipment to identify, tag and repair leaks.
- HVAC Recommissioning, beyond basic PM, this program retrofits legacy HVAC systems to ensure that optimal performance is maintained in systems that have been in service for many years.



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**Building Management System:**

- Thermostat setpoints based on employee occupancy schedules in office and similar areas.
- Demand control ventilation automatically adjusts outside air quantities based on CO2 concentrations in office spaces.
- Peak demand monitoring. Allows predicting and potentially shifting and reducing demand component of electric bill.



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**Lighting/Controls:**

- Conversion of existing lighting to LED
  - Site/interior lighting standard is now LED. Existing facilities are converting older fixtures to LED.
- Daylight Harvesting, automated lighting controls reduce lighting energy needed to maintain desired light levels in areas equipped with windows and skylights.
- Occupancy Sensors. Lighting in areas of variable occupancy can be turned off when space is not being used.



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**Facilities Process Controls:**

- Oven Heat Energy Recovery. Heated air can be recirculated in the plants when conditions are favorable to reduce comfort heating costs.
- Process Demand Control Ventilation, Outside Air Makeup Quantity is modulated to provide the air needed based on actual equipment in production. Excess air is not required to be heated or cooled.
- Logic controlled compressed air systems. Compressed air capacity is adjusted based on production needs. Air compressors are staged to meet demand based on real time consumption at air consuming devices.
- Process Water Demand Control. Process Cooling water pump systems utilize variable frequency-controlled motors to maintain pressure setpoints. Pumping horsepower therefore modulates to meet system demand and reduces energy consumption.



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**Utility Company Incentives:**

- NAL utilizes incentives provided by our utility company to promote investment in energy saving initiatives.
- Ameren Illinois' Act On program provide incentives for lighting upgrades, hvac improvement, retro-commissioning and other special projects that qualify for assistance.
  - The Illinois Municipal Electric Association offers similar incentives for our Flora Plant.



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Conclusion

NAL strives to continue to reduce electrical energy consumption at all our manufacturing facilities. We have a carbon reduction program to reduce carbon by 2% each year to 2030 and a net zero plan by 2050. NAL wants to maintain being a good energy and environmental partner for years to come.

Any questions for details on some of our activities please contact:

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