

## gas station case study: LUKOIL Gas Station



### Main Achievement/s

- Reuse of existing fixtures with Metrolight's EcoBOX
- Reduce lamp power while maintain lighting optics and performance and realize significant energy savings

### Background

LUKOIL Americas is a wholly owned subsidiary of LUKOIL Oil Company which is the leading vertically integrated oil company in Russia. Founded in 1991, LUKOIL Oil Company is one of the world's top five publicly traded oil companies in terms of proven oil reserves.

Today, LUKOIL boasts 2000 facilities in 13 states which generate over two billion gallons of gasoline sales annually through its service bay and convenience store operations.

LUKOIL Americas is on its way to becoming a major force in the Eastern U.S. market.

### Original Situation

The LUKOIL gas station in Newark, New Jersey consisted of:

- Canopy with 16 x 320w metal halide lamps
- Pole lighting with 6 x 400w metal halide lamps
- Operating 24/7

### Snapshot

Energy Savings  
**37%**

#### Lamp Power

16 Canopy lamps reduced from 320w to 250w  
6 Poles reduced from 400w to 250w

#### Annual kWh Saved

25,915

#### Annual CO<sup>2</sup> Saved

18.6 metric tons

#### Simple Payback Period

0.8 years

#### Total Annual Saving

\$3.950

The two main challenges of a gas station lighting retrofit project are:

- Maintaining the lighting “look and feel” of the canopy
- Costs involved in changing the fixtures

## The Result

- Achieved energy savings of 37%
- New installation consisted of 16 x 250w electronic ballasts in the canopy and 6 x 250w electronic ballasts on the poles
- Reduced lamp power while maintaining lighting optics and performance
- No fixtures were replaced - Metrolight’s EcoBOX was used, enabling the reuse of existing fixture bodies without damaging the envelope and maintaining photometric design
- Eligible for utility company rebate resulting from the installation of energy efficient lighting



*Before Metrolight*  
320w magnetic  
HID ballasts



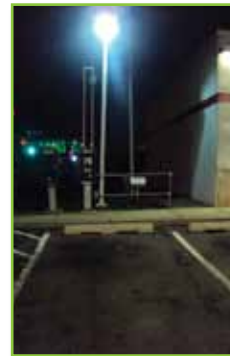
*After Metrolight*  
250w SmartHID™  
Electronic Ballast



*Before Metrolight*  
320w magnetic HID ballasts



*After Metrolight*  
250w SmartHID™ Electronic Ballast



*Before Metrolight*  
400w magnetic HID  
ballasts



*After Metrolight*  
250w SmartHID™  
Electronic Ballast

Features	Before Installation	After Installation	Savings
Fixture Power Consumption	Canopy 376 Poles 471	Canopy 266 Poles 266	Canopy 110 Poles 205
Operating Hours/Days	24/365	24/365	-
Annual Lighting-Related Energy Cost	\$11,628	\$7,678	\$3,950
Total Annual Savings	<b>\$3,950</b>		
Simple Payback*	<b>0.8 Years</b>		

\*Quicker payback period due to utility rebate

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