Who We Are

Barnes Inc.: Landscape, Lawn Maintenance, & Snow Removal
- Mark Barnes, President/CEO
- Founded: 1981
- Employees: 150
- Revenues: Average $8.5M over past 4 years
www.barnesinc.net

Barnes Green Energy (BGE):
- Mark Barnes, President/CEO
- Founded: 2012
- Furnish and install EPA certified CNG fueling system conversion kits
- Furnish & install Propane fueling system conversion kits
www.barnesgreenenergy.com
Case Study

**Annual Fuel Savings**
Vehicle Fleet
Mower Fleet
Fleet Overview

45 Propane Mowers
Barnes Inc. Vehicle Fleet

- Total fleet of 145 trucks
  - 50 CNG Lt. duty trucks
  - 6 Propane Lt/Md duty trucks
- 38% of our vehicle fleet runs on alternative fuels
- 62% of our vehicle fleet runs on petroleum

<table>
<thead>
<tr>
<th>Petroleum</th>
<th>CNG</th>
<th>Propane</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2.50/gal</td>
<td>$.90/gal</td>
<td>$1.00/gal</td>
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</tbody>
</table>

- Spring, Summer, Fall=avg. 2000gal/mo. TOTAL 16,000gal
- Winter=avg. 1250gal/mo. TOTAL 5000gal
- TOTAL 21,000 gal/yr in alt. fuels

<table>
<thead>
<tr>
<th>Vehicle Type</th>
<th>Gas at $2.25</th>
<th>Gas at $3.50</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNG trucks</td>
<td>Total Savings $30,000</td>
<td>$55,000</td>
</tr>
<tr>
<td>Propane trucks</td>
<td>Total Savings $6,500</td>
<td>$15,000</td>
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barnesgreenenergy.com
Converted Vehicles

- BGE has converted a variety of trucks for other Fleet Owners such as WI Propane Education Research Council (WIPERC) Dane Co. Highway, Dane Co. Parks, City of Janesville-Water Division, Black Hills Energy, Steinhafels, Great Lakes Conservation Corp., UW Provision, Center Point Energies, UW-Oshkosh, and others.
Barnes, Inc. Mowers

BARNES, INC.
LIFTING THE BOTTOM LINE

Video credit: Propane Education Research Council

barnesgreenenergy.com
Mowers

- Total mower fleet 60 mowers
  - 35 walkbehind (36, 48, 52) = ALL run on propane
  - 25 riders = 12 run on propane
  - 47 TOTAL mowers run on propane
- 78% Barnes, Inc mower fleet runs on propane

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<tr>
<th>Off-road Petroleum</th>
<th>Off-road Propane</th>
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<td>$2.25/gal</td>
<td>$1.00/gal</td>
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On-Road Propane Fueling Station-2000gal

Off-Road Equipment Propane Fueling Station-1000 gal

43# cylinder approx. 10gal
20# cylinder approx. 5 gal
Mowers con’t

- Riders
  - 400 gal/wk x 26 wks = 10,400 gal/yr
- Walk behinds
  - 600 gal/wk x 26 wks = 15,600 gal/yr
- TOTAL 26,000 gal/yr

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<tr>
<th>Off-road Petroleum Fuel Costs</th>
<th>Off-road Propane Fuel Costs</th>
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<td>$58,500/yr w/gas at $2.25</td>
<td>$26,000/yr w/propane at $1.00</td>
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<th>Fleet Type</th>
<th>Gas at $2.25</th>
<th>Gas at $3.50</th>
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<tr>
<td>Propane Mowers</td>
<td>Total Savings $32,500</td>
<td>Total Savings $65,000</td>
</tr>
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Time-Fill Station

- On site private CNG Time-Fill Station completed Fall of 2016
- Simultaneously fill up to 20 vehicles in 10-12hr fueling cycle
- 10 Dual Fuel Posts
- Bauer C22 Duplex Compressor
- Each vehicle fills up to 20 GGE (gas gallon equivalent)
- ex: 20 trucks filling will dispense 2GGE/hr

Bauer C22 Duplex Compressor

Barnes, Inc. Time-Fill Station

Dual Fuel Posts
Summary

With gas at current rate of $2.25/gal

ANNUAL FUEL SAVINGS $82,000-$85,000

Propane Mowers = $32,000-$35,000
CNG Vehicles = $40,000
Propane Vehicles = $6,500

With gas at current rate of $3.50/gal

ANNUAL FUEL SAVINGS $140,000-$150,000

Propane Mowers = $62,500
CNG Vehicles = $60,000
Propane Vehicles = $15,000

• Actual fuel savings go directly to bottom line
• Stability in fuels costs
• Cleaner burning
• Business, Employee, Customer, Environmental benefits
Other Considerations

- Tax Credits, Incentives, Rebates
  - Currently mower rebate through State/Federal
- Routine Maintenance
  - Replace filters - every year or 15,000 miles
  - Tank Inspection - every three years or 36,000 miles
  - System Inspection - once a year
- Stability in fuel costs with on-site fueling
- Pass savings on to customers
- Reduction in our Carbon Footprint