Why CNG? Why Now?

June 13\textsuperscript{th}, 2013

Gary Conover, Solid Waste Director
Atlantic County Utilities Authority

Contact information:
609.272.6950
gconover@acua.com

www.acua.com
The Atlantic County Utilities Authority

- The Atlantic County Utilities Authority is a public agency that provides environmental and waste management services to the people of Atlantic County and southern New Jersey.

- The ACUA operates both Wastewater and Solid Waste Management Systems.
About the ACUA

- $62.5 million in annual revenue
- 250 employees
- Full service regional wastewater treatment facility, trash, recycling & yard waste collection, landfill, composting, recycling center, and transfer station.

The ACUA Mission Statement...

The Atlantic County Utilities Authority is responsible for enhancing the quality of life through the protection of waters and lands from pollution by providing responsible waste management services. The Authority is an environmental leader and will continue to use new technologies, innovations and employee ideas to provide the highest quality and most cost effective environmental services.

...makes the Authority a natural facilitator for renewable energy projects
What does sustainability mean to the ACUA?

Ensuring our viability in the future by making smarter, greener decisions today that result in:

- More efficient uses of energy
- Fewer harmful emissions produced
- Less waste
- Less dependence on foreign oil
- Greater cost savings
- Greater stability for the organization
- A healthier community
The ACUA practices sustainability through:

- Using alternative energy and fuels
  - Wind
  - Solar
  - Landfill gas
  - Geothermal
  - Biodiesel
  - Compressed Natural Gas
  - Hybrid/Electric Vehicles
ACUA’s Propane Vehicle
2004 – Ford Escape Hybrids
2005 - Bio-Diesel (B20/B5)
2005 - NJ Diesel Retro-fit Law
2005 - Reducing Air Pollution Together
Diesel Initiatives Work Group,
aggressive diesel emission reduction goals
2005 Diesel Retro-fit Law
Affected Fleets

Trash Trucks, Publicly Owned or Privately Owned & Used in a Public Contract -
June 2008
NJ Transit Buses – March 2010
Privately Owned Commercial Buses – September 2010
Public-owned Heavy-Duty on and non-road vehicles September 2011
BART! Best Available Retro-fit Technology

- BART 1 > 25% PM Reduction
- BART 2 > 50% PM Reduction
- BART 3 > 85% PM Reduction
- Most Diesel Equipment Before 2008
  no emission controls
Bio-Diesel – B20 = 12% PM reduction
  & B100 = 47%

- OK, NOW WHAT????
2007 Bio-Energy Conference/CE
2008 Single Stream Recycling, why is this important? Trucks
2008 Nov, CNG station bids rejected
2009 Nov, CNG Station Awarded
2009 Nov, 5 CNG Trucks Awarded, + 10 more under USDOE Grant Funding
2010 Nov, CNG Station Open!
Southern NJ's first CNG Fueling Station

www.acua.com/CNG
Grant Funding Through Dept. of Energy/American Reinvestment & Recovery Act

Total Award to NJ Clean Cities Coalition: $14.9 million
For 5 projects in NJ: ACUA, AC Jitney, WM – Camden, Central Waste & City of Newark
Initial Award to ACUA: $1.94 million
Station Construction Cost: $2.3 million
Station Reimbursement: $1.3 million
Vehicle (15) reimbursement: $0.64 million ($42K each)
Award Amendment Maintenance Center Upgrades: $75K
Total Award to ACUA: $2,015,000
Compressed Natural Gas (CNG)

- **Cleaner**: CNG burns cleaner than diesel/gasoline
- Less Smog:
  \[ \geq 85\% \text{ Reduction in } \text{Nox} \]
- Less Soot:
  \[ \geq 90\% \text{ Reduction in Particulate Matter} \]
Dirty Diesel
Compressed Natural Gas (CNG)

- Why CNG?
- **Cheaper** - Natural gas is more than $1.00 cheaper than diesel per gallon equivalent. ACUA saves approx $11,000 per truck per year based on the price differential between CNG & diesel. 16 CNG Trucks and counting! Annual savings $176,000
Local Fuel Price June 4th, 2013
CNG Pricing June 4, 2013 at ACUA’s Fueling Station
Let’s do some MATH!

- **CNG vs Gasoline**
  - Sold in Gasoline Gallon Equivalents (GGE)
  - 1 GGE = ~126 Cubic Feet

- **CNG vs Diesel**
  - 1 GGE = ~1.112 Diesel Gallon Equivalents (DGE)
  - 1 DGE = ~140 Cubic Feet
Let’s do some MATH!

- CNG Price at ACUA Pump $2.349 GGE
- Diesel price at Sunoco $3.579 per gal
- ACUA CNG Price to DGE
- $2.349 x 1.112 = $2.631
- $3.579 - $2.631 (DGE) =
- $0.948 savings per gal RETAIL
Better! Transition of Fleet
Better! Transition of Fleet
ACUA CNG Accomplishments

- To date ~198,000 gallons displaced by ACUA
- ~698,000 gallons dispensed at the station
ACUA CNG Accomplishments

Over $1 million lifetime revenue & savings
ACUA CNG Accomplishments
CLEANER!

GHG Emissions Reductions From CNG Use (Metric Tons of CO2)

- 530+ metric tons of CO$_2$e reduction from ACUA fleet
- ~1,900 metric tons of CO$_2$e reduction total

Committed to environmental quality
Committed to environmental quality

ACUA Fleet Fuel Prices (in GGE)

ACUA CNG Rate (GGE) - Blue
ACUA Diesel Rate (GGE) - Red

Graph showing the ACUA Fleet Fuel Prices (in GGE) from November 2010 to February 2013.
AC Jitney Association’s CNG Fueling Station
Other Alternative Fuel Vehicles

- ACUA has 5 Chevy Silverado Hybrids for shift supervisors and enforcement staff.
- ACUA also has a Nissan Leaf and Plug-In Prius as pool cars for administrative staff.
Gary Conover
Atlantic County Utilities Authority
Contact information:
609-272-6950
gconover@acua.com