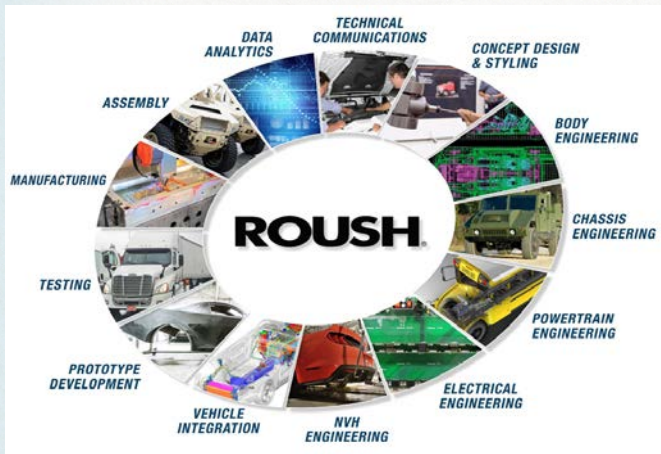




FILLING THE GAP: STRATEGY, TECHNOLOGY, AND PARTNERSHIPS FOR INFRASTRUCTURE DEVELOPMENT

Northeast/Mid-Atlantic Alternative Fuel Corridor Convening
July 10, 2019

Advanced Clean Energy Solutions



Products

School Buses



Blue Bird Vision
Propane, CNG, Gas



Micro Bird G5
Propane Only

Chassis Cabs



Ford F-450 / F-550
Propane Only



Ford F-650 / F-750
Propane Only

Stripped Chassis/Cutaways



Ford F-59 & F-53
Propane Only



Ford E-450 & E-350
Propane Only

Development Capabilities

Connected Vehicles

Technology utilized to monitor real-time diagnostics, driving proactive service and a measurable reduction in vehicle downtime.

Fleet Management Software

A platform developed to track and report vehicle service to improve fleet management.

Autonomous Vehicles

Software and hardware solutions integrated with a major software company for their autonomous vehicle program.



Propane



Gas



Compressed
Natural Gas



Electric

ROUSH and Alternative Fuel Corridors



Design and Development



Government Partnerships



Product Solution

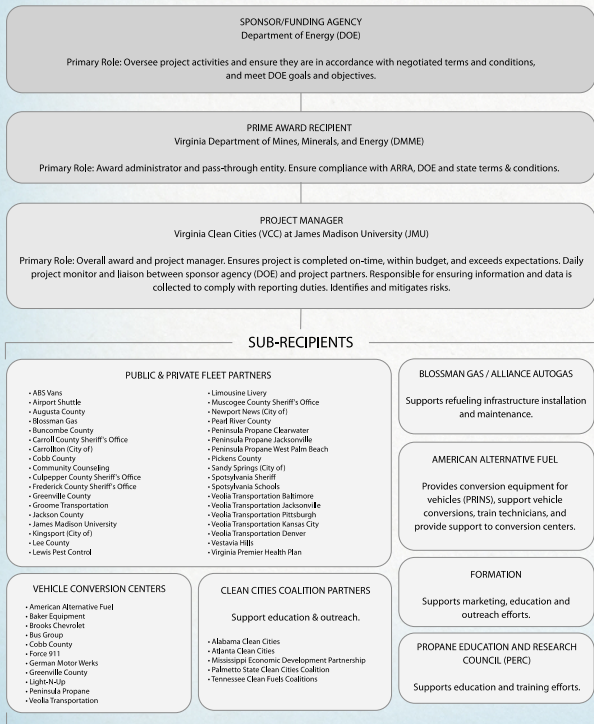


In-Market Infrastructure Capabilities

Key Barriers & Opportunities: Autogas

- Infrastructure ownership, requirements and tradeoffs
- Approach to infrastructure needs differ based on vocation
- Volume needs for retail locations
- Price volatility at retail locations
- Autogas adoption is more fleet than consumer based
- Autogas supply & distribution different than natural gas & electric; much more competitive
- Decision making has blind spots due to lack of accurate models data needs
- Decarbonization movement versus TCO / cost-effectiveness

SOUTHEAST PROPANE AUTOGAS DEVELOPMENT PROGRAM ORGANIZATIONAL CHART



Successful models exist. There is potential for improvement and replication versus reinventing the wheel.

Southeast Propane Autogas Development Program Summary:

- 10 southeast states
- Converted nearly 1,200 public and private fleet vehicles from gasoline to propane Autogas
- Implemented more than 30 propane autogas refueling stations throughout the southeast U.S.
- Displaced an estimated 1.2 million gallons of gasoline annually
- Eliminated an estimated 6,000 tons or more of carbon dioxide
- Created dozens of jobs