

W.Va. Clean State Program 20-Year Anniversary Celebration



WEST VIRGINIA DIVISION OF
ENERGY
WEST VIRGINIA CLEAN STATE PROGRAM

Kelly Bragg, coordinator

W.Va. Clean State Program

October 18, 1994, the W.Va. Clean State Program is designated the 21st U.S. DOE Clean Cities Coalition.



ARTICLE 2A.

USE OF ALTERNATIVE FUELS IN STATE-OWNED
VEHICLES.

Sec.	Sec.
5A-2A-1. Definitions.	5A-2A-4. Prohibition of subsidies or incentive payments.
5A-2A-2. Purchase or lease of fleet vehicles; use of alternative fuels.	
5A-2A-3. Regulation of compressed natural gas.	

§ 5A-2A-1. Definitions.

As used in this article, the following words and phrases shall have the meanings hereinafter ascribed to them:

3

§ 5A-2A-2. Purchase or lease of fleet vehicles; use of alternative fuels.

(a) After the first day of September, one thousand nine hundred ninety-three, the secretary may purchase or lease alternative fuel vehicles for use by any state agency.

(b) The secretary may acquire or be provided with equipment or refueling facilities necessary to operate alternative fuel vehicles by any of the following methods:

- (1) Purchase or lease as authorized by law;
- (2) Gift or loan of the equipment or facilities; or
- (3) Gift or loan of the equipment or facilities or other arrangement pursuant to a service contract for the supply of alternative fuels.

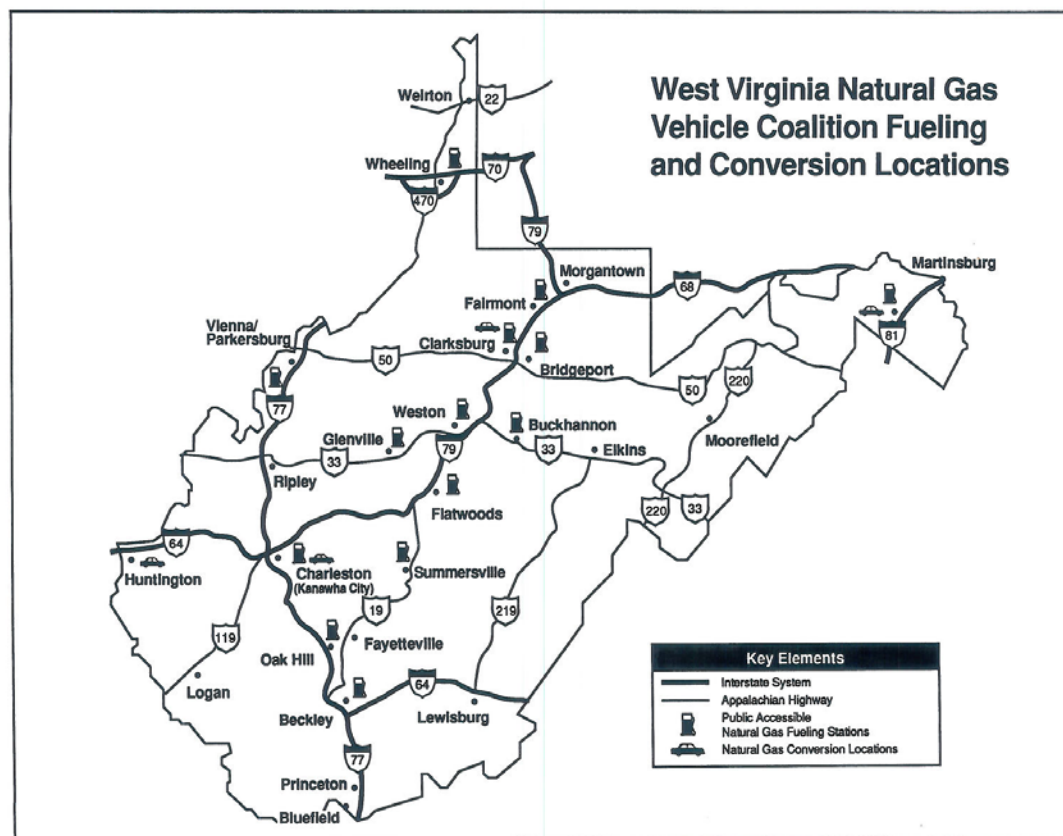
(c) If such equipment or facilities are donated, loaned or provided through other arrangement with the supplier of alternative fuels, the supplier shall be entitled to recoup its actual cost of donating, loaning or providing the equipment or facilities through its fuel charges under the fuel supply contract.

(d) Of the total number of vehicles acquired or caused to be acquired by the secretary for use by any state agency vehicle fleet:

- (1) Twenty percent in fiscal year one thousand nine hundred ninety-five;
- (2) Thirty percent in fiscal year one thousand nine hundred ninety-six;
- (3) Fifty percent in fiscal year one thousand nine hundred ninety-seven, shall be alternative fuel vehicles.

(e) The secretary shall review this alternative fuel use program on or before the thirty-first day of December, one thousand nine hundred ninety-seven, and if the secretary determines that the program is effective in reducing costs to the state, taking into consideration the cost of operating alternative fuel vehicles over the expected useful life of such vehicles, the secretary shall, of the total number of vehicles acquired in each fiscal year, acquire at least seventy-five percent alternative fuel vehicles for state agency fleets beginning the first day of September, one thousand nine hundred ninety-eight, and thereafter.

4





In the Beginning

The Raleigh County Vo-Tech Center was challenged by Appalachian Power Company to build a car which ran off electricity. Appalachian Power Company provided the bulk of the funding toward the project. The car, a 1988 Chevy Sprint, was donated by Lewis Chevrolet. We were one of twenty-five schools in the EV Grand Prix at the Richmond International Raceway to convert a gasoline powered car to an electric powered car.

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The Register-Herald/Rick Barbero

Lewis Chevrolet and the Academy of Careers and Technology once again have received national recognition for their participation in an electric vehicle program. They were partners in the project with Appalachian Power Co.

Receiving word of the project's nomination as a finalist in the 1995 Geo Award for Environmental Excellence program are (from left) Jim Campbell, electronics instructor at the school, Dana Perry of Appalachian Power Co., Glenn Smith,

assistant principal at the school, John Lilly, shop foreman at Lewis Chevrolet, Nancy Pat Lewis-Smith, president of Lewis Chevrolet, and Randy Dempsey, general sales manager.

Dealership, technical school rack up another award

"Little good is accomplished without controversy, and no civic evil is ever defeated without publicity."

TODAY'S WEATHER



Sunny. High of 84.

The Daily Athenaeum

The Campus Newspaper of West Virginia University

Vol. 109 No. 10

Morgantown, West Virginia

Thursday, August 29, 1996

Morgantown Airport gains recognition

University-created Cessna 150 uses drinking alcohol as an alternative fuel

By KELLY COLLINS
STAFF WRITER

The Morgantown Municipal Airport, the city and the University were commended Wednesday at the University Hangar by the U.S. Department of Energy for launching the second clean airport in the country.

Mayor Charlene Marshall, Airport Manager Bill Plutt and University President David Hardesty were awarded plaques by the U.S. Department of Energy (DOE) which recognized them as charter members of the Clean Airport program.

The program was created by the DOE to target small airports, aircraft owners and pilots seeking alternatives to using current aviation gasoline (avgas), which is expensive and produced in small quantities.

Its goals are to reduce dependence on imported oil and to bring about a reduction in exhaust emissions through the use of alternative fuels.

Alternative fuels include compressed natural gas, liquefied natural gas, methanol, ethanol, propane, hydrogen and biodiesel.

John Russell, Director of the Office of Alternative Fuels for the DOE, said West Virginia has been successful with other "clean" programs.

"You can drive almost anywhere in West Virginia on natural gas," he said.

Russell said the state was able to make stations accessible to alternative fuel within six months.

As a result of the quick conversion to public accessible natural gas fueling stations, Russell said he would like to offer a challenge to the state.

"I would like to see two more airports by Christ-

mas in West Virginia that have something to do with alternative fuel," he said, "keep pushing toward that goal ... I know you'll do it."

Currently, the airport and the University have many alternative fuel vehicles.

Some on display at the hangar were electric cars, a new generation concept car and an ethanol fueled airplane.

The airplane, a Cessna 150, was created by the Department of Mechanical and Aerospace Engineering.

It is one of few in the country that has a dual fuel system which uses either ethanol (drinking alcohol) or avgas.

The green-and-white-painted craft, called the "The Green Baron," symbolizes the department's commitment to clean air and a green Earth.

It carries the aviation gasoline in its right-wing tank and the ethanol in its left-wing tank.

Ethanol, one of the least expensive domestic fuels, costs about \$1.25 per gallon compared to avgas which has the wholesale price of 85 cents per gallon.

It is also safer to use.

Alternative fuels may also be better for the economy, Russell said.

"If you don't think (soldiers) shed their blood for oil, think again," he said, "... and this is the way to stop it."

Hardesty said he believes the use of alternative fuels will create a less dependent economy and a clean, green environment.

Also, he said he believes the University is at the forefront of the technology behind alternative fuels.



TRISH BENNETT/Athenaeum

DA PLANE! DA PLANE!: This ethanol-powered airplane was on display Wednesday afternoon at the Clean Airports Designation Ceremony at the University Hangar of the Morgantown Municipal Airport.

Jeff Herholdt, manager of the energy efficiency program for the West Virginia development office said, at this rate, by the year 2010, 70 percent of all the petroleum products in the country will be imported.

That's \$1 billion dollars per year, he said. This is why alternative fuels are so important, he said.

At the end of the meeting, a stunt show featuring "The Green Baron" took place.

BOG gets new year under way

By THERESA HAYNES
STAFF WRITER

Student Administration Board of Governors started the year out with smiles and a little heat as BOG member Brad Keller suggested changing the Student Body Constitution and Attorney General Steve DeLorenzo accused members of stealing things from his desk.

"I'm just a little ticked off here," DeLorenzo said. "First it was money and then resolutions. If you want something then ask for it. If you're not an executive officer then you don't belong (in the executive office). Is that understood? Things are going to change around here."

Keller wanted a few things to be changed too — namely the BOG's procedure of taking a student vote before changing bylaws.

Currently every time BOG wants to change a bylaw, as long as it falls under the constitution, they have to organize a student referendum. Historically, about 100 students out of the University's 23,000 eligible voters have participated in such referendums.

Keller suggested the process be

8 The Daily Athenaeum

NEWS

Monday, February 12, 1996

Natural gas gaining importance as vehicular fuel

JEAN BECKETT
STAFF WRITER

West Virginia may begin to reap noticeable benefits from its rich reserves of natural gas as the fuel flows into mainstream use.

On Feb. 16 citizens and guests will meet in Charleston at the West Virginia Cultural auditorium to learn more about the growing use of natural gas and other alternative fuels.

One of the conference's guests, Larry McLaughlin, directs a training program at the University which provides technical and safety training as well as educational materials dealing with the employment of natural gas as an alternate source of transportation fuel.

"I think the reason (natural gas) is being talked about is because West Virginia's been out in the lead in promoting

natural gas as an alternative fuel," McLaughlin said.

According to McLaughlin, several statewide private and governmental organizations (like the Physical Plant at the University) which own large numbers of service vehicles are running their fleets on natural gas. The reasons include both economic and environmental motivations.

"The primary reason it's being used by fleets is the emissions advantage," McLaughlin said.

Natural gas coughs out less harmful emissions than regular gasoline.

"There are three major pollutants in (automobile) exhaust streams — nitrous oxide, carbon monoxide and particulate matter (smoke)," said Dr. Don Lyons, chairman of the College of Engineering and Mineral Resources. "Natural gas produces about one-tenth of the particulate

matter (than regular gasoline does)."

And natural gas-burning engines emit comparatively 10 to 40 percent less nitrous oxide and carbon monoxide, according to Lyons.

"There is an even balance of economic and environmental reasons why compressed natural gas makes sense in the nation and particularly in West Virginia," he said.

West Virginia's strategic geography may thrust the state into a new economic realm with the growing use of natural gas.

According to Lyons, West Virginia is the largest producer of natural gas east of the Mississippi. It is also holds an extensive network of pipelines importing natural gas from other states like Texas.

This presents two potential economic benefits to West Virginia, Lyons said.

"The first is that it can save fleet owners like WVU and companies like UPS, money on fuel," he said.

The fuel costs about 75 to 90 cents per

gallon.

"In a four-to-five-year time period, some fleet operators can recover the cost of their equipment (through use of the more cost-effective natural gas fuel)," McLaughlin said.

The second economic advantage is the creation of jobs.

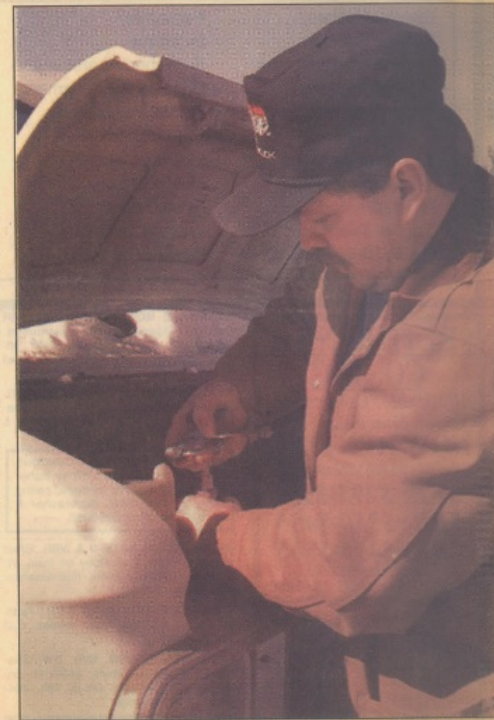
If the "new" industry continues to grow, the demand for specially-trained mechanics, technicians and service employees will expand the scope of West Virginia's infrastructure.

Field experts like Christine Ervin, assistant secretary for energy efficiency and renewable energy of the U.S. Dept. of Energy, will address both economic and environmental issues at the National "Town Meeting" in Charleston.

The meeting, sponsored by the U.S. Department of Energy, the West Virginia Natural Gas Vehicle Coalition and the West Virginia Development Office in Charleston, is one of three national meetings on the topic.

IT'S A GAS:

Randy Long from the mechanical equipment shop fills up one of the Physical Plant's vehicles with natural gas. The physical plant's goal is to convert one vehicle a week to natural gas, a cleaner, more efficient fuel.



GRETCHEN DILLER/Athenaeum

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15th

February 16, 1996 the W.Va. Clean State Program hosts the first U.S. DOE Clean Cities town hall meeting.

CLEAN CITIES UPDATE (Continued from page 7)

Cities Program to find innovative ways to work together on alternative fuel projects such as state lobbying and a clean fuel corridor on the Pennsylvania Turnpike....

■ Those who met the National Association of Fleet Administrators **Str. Louis**, Missouri chapter chairman Chris Amos at the September 1995 Clean Cities National Clean Cities Stakeholders' Meeting and Conference may be pleased to know that he has accepted a position as Commissioner of Equipment Services for the City of St. Louis....

■ **Charleston**, West Virginia was the site of the first DOE Clean Cities town hall meeting on February 16th, 1996. Approximately 225 people and local media attended the West Virginia Town Hall Meeting on Natural Gas, hosted by DOE's Assistant Secretary for Energy Efficiency and Renewable Energy Christine Ervin and Representative Bob Wise (D-WV). The meeting highlighted Clean Cities program successes, benefits of CNG, impacts of fleet mandates, and provided a forum for the public to learn more about alternative fuels.

CLEAN CITIES CALENDAR

Clean Cities Update (Continued from page 7)
Cities Program to find innovative ways to work together on alternative fuel projects such as state lobbying and a clean fuel corridor on the Pennsylvania Turnpike....

The meeting was instrumental in persuading the West Virginia Legislature to unanimously pass the Alternative Fuel Tax Credit, which was signed by Governor Gaston Caperton (D) in April. The law will allow taxpayers not mandated to buy AFVs to take state tax credits for the incremental cost of AFVs ranging from \$3,750 to \$50,000, depending on vehicle size. For more information, contact Jeff Herholdt, West Virginia Energy Office, 304-558-4010.

■ **The Southern California Association of Governments (SCAG) and Los Angeles**, California were designated as the 44th and 45th Clean Cities on March 1 and 22, 1996, respectively. Energy Secretary Hazel O'Leary attended the Los Angeles event. Look for details in the next issue of the *Clean Cities Drive*.

■ And finally, in December 1995, the Clean Cities "Not-So-Trivia" booth made another appearance at the *Electric Vehicle Association of the America's North American EV and Infrastructure Conference* in Atlanta, Georgia.

Printed with a recyclable cover. 1 copy per household containing at least 200 newspapers including at least 200 postmaster marks.

Clean Cities DRIVE

Spring 1996
Volume 7 Number 2

Welcome

To the 16th issue of the U.S. Department of Energy's (DOE) Clean Cities Drive. Each issue of the newsletter will bring you valuable information from the Clean Cities program to help you succeed in putting more alternative fuel vehicles (AFVs) onto our roads. If you have a story to tell, a picture to share, or information of interest to Clean Cities participants, please call the Clean Cities Hotline at 1-800-CITIES.

In This Issue

- 1 Technical and Training Centers Meet Clean Cities' Needs for Skilled Mechanics
- 2 NEW MEXICO SETS EXAMPLE
- 3 Stakeholders' Corner
- 4 Clean Cities in Environmental Leaders
- 5 Clean Cities Update
- 6 CLEAN CITIES CALENDAR
- 7 CLEAN CITIES CALENDAR
- 8 CLEAN CITIES CALENDAR

TECHNICAL AND TRAINING CENTERS MEET CLEAN CITIES' NEEDS FOR SKILLED MECHANICS

At Clean Cities stakeholders place more alternative fuel vehicles (AFVs) on the road, specially trained mechanics will be in greater demand. Cities now mechanics enter the field, auto manufacturers are producing a shortage of skilled mechanics for all vehicle types.

The U.S. Department of Energy (DOE) and others are working to fill this gap through innovative programs that directly benefit Clean Cities. This year, DOE offered 122 training scholarships worth \$200,000, giving priority to mechanics working in Clean Cities. The scholarships will be administered by the American Automobile Association through a three-year cooperative agreement.

In addition to this national scholarship effort, some Clean Cities are working, with training and conversion centers in their areas to attract new students and give them the special training they need for the expanding automobile field. These cooperative efforts are seen by many Clean Cities participants as increasingly important in helping them achieve their ambitious goals of increasing AFV numbers and building infrastructure.

NEW MEXICO SETS EXAMPLE

ALBUQUERQUE FOLLOWS SANTA FE'S PIONEERING AFV TRAINING PROGRAM

One of the first AFV training programs began in 1991 at Santa Fe Community College's Alternative Fuel Vehicle Training Center. Since then, more than 200 technicians, fleet managers, automotive technology instructors, and others have been trained to work on compressed natural gas (CNG), propane, ethanol, methanol, and electric vehicles.

Just down the road, a recent state school, the **Albuquerque Technical Vocational Institute**, has developed a natural gas vehicle technician training curriculum in partnership with Santa Fe Community College and with funding awarded last year through DOE's State and Local Incentives Pilot Program.

Albuquerque's first alternative fuel course will be offered in May, and another is scheduled next fall. "After that we're anticipating adding it to the curriculum," said Larry Monagan, an advisor for the school's transportation program. "We're looking at the future, trying to prepare for what we believe will be a bigger market. Right now there is a greater demand for technicians at the local level than we have trained."

(Continued on page 2)

Bluefield's first natural gas station opens mid-August

By CHELYEN DAVIS
of the Daily Telegraph staff

BLUEFIELD—Starting August 19, area drivers will be able to fill up their cars with not gasoline, but natural gas.

That's the date Bluefield's first natural gas station is scheduled to open at Deb's Food Mart on Cumberland Road. The Bluefield station makes West Virginia's 26th compressed natural gas station. Already you could drive across the state in a natural gas vehicle — when the Bluefield station opens, you'll be able to get to Charlotte, N.C.

Those 26 stations are located in 19 of West Virginia's 55 counties.

"West Virginia's got enough stations that you can just go all over the place," said Steve Hopta of Pocahontas Land Corp. Hopta has been involved in the progress of natural gas vehicles (NGVs) in West Virginia for years. "We may not have as many (as other

states) but ours are strategically located. We have probably the best infrastructure."

The first CNG in West Virginia opened in Charleston in 1991. The West Virginia Natural Gas Vehicle Coalition started in 1993 to help develop stations. West Virginia was the first state to be declared a Clean State, which means access to federal money for the development of natural gas stations.

Of course you can't drive on natural gas unless your car has been converted to run on it. So the new station at Deb's Food Mart is putting the cart before the horse in a way — most Bluefield residents drive cars that run on gasoline. You can get a car converted to be bi-fuel, meaning it runs on gasoline or natural gas, or you can order a bi-fuel or a dedicated (natural gas only) vehicle from the factory.

Neither option is cheap, but there are state and federal tax



Contributed photo

From left, Steve Hopta, Jeff Heirholtz and Jim Shockley.

breaks that pretty much cover the cost.

So the only major problem is finding a shop to convert the car. As of now, you'll have to drive at least as far as Beckley.

But Jim Shockley of Bluefield

Gas, one of the companies involved in putting in the station at Deb's, said they're working on convincing local mechanics it's worth their while to learn how to convert cars.

"By year-end we should have a

local conversion shop established," Shockley said. He said the owner of Deb's has a shop next door and is interested in converting vehicles.

Shockley said the gas company takes their vehicles to Automotive Research Technologies in Morgantown for conversion and maintenance. He said the company is interested in working with a local shop to do conversions.

"They're currently looking for a local shop to work in conjunction with them," Shockley said. The company will train workers and get them certified to work on natural gas vehicles.

"In the meantime, ART will come pick up your car, take it to Morgantown, convert it and bring it back," Shockley said.

The station at Deb's is finished except for some minor connections, Shockley said. Natural gas at Deb's will sell for 89 cents per gallon, which is cheaper than gasoline.

Natural gas: A fuel for the future

By CHELYEN DAVIS
of the Daily Telegraph staff

BLUEFIELD — Gasoline-powered cars, lawnmowers, equipment, or any other machine may soon be a thing of the past. Look out, foreign crude oil — natural gas is here.

In the next two weeks, Bluefield's first natural gas station will open at Deb's Food Mart on Cumberland Road. It will be the 26th CNG (compressed natural gas) station in West Virginia. The first opened in Charleston in 1991.

But how did West Virginia, and

Natural, B-2



Gasoline alternative comes to Bluefield

By **BILL ARCHER**
of the *Daily Telegraph* staff

BLUEFIELD —Alternative fuel enthusiasts were cooking with gas on Wednesday. Motorists of the two Virginias now have a place to fuel their compressed natural gas vehicles in Bluefield.

Officials of Bluefield Gas and Hope Gas joined with Rep. Bob Wise (D-W.Va.) to celebrate the opening of West Virginia's newest commercial compressed natural gas fueling station at Deb's Food Mart at the intersection of Cumberland Road and Grassy Branch.

Wise called the use of compressed natural gas "unbeatable," and added that the use of

natural gas in personal vehicles means "the Sierra Club loves you and so does Wall Street."

According to Wise, the opening of the natural gas fueling station means that motorists statewide are now within range of fuel for their vehicles.

"Now you can drive anywhere, north to south and east to west and get fuel," Wise said.

"The technology is proven," Wise said. "It is a sound investment. West Virginia has been designated by the Department of Energy as the only 'clean state' in the nation. Bluefield now makes that picture complete."

Jim Shockley, manager of

Gasoline, A-3

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Hummer Fire Command Vehicle (HFCV)

LEASE OR PURCHASE**Chrysler/Dodge Lineup for '97**

Chrysler Corporation's line up is the same as last year's except for the Ram
Pickup will only be available in the 1500.

The line up is:

97	ULEV & ILEV CERTIFIED RAM 1500 DEDICATED PICK UP	
	Engine	5.2 V-8
	Transmission	4 Speed Automatic
	Seating (Max)	3-Passenger
	Fuel Capacity	16.3 gallons @ 3000 psi equivalent
	Range	
	City:	125-175 miles
	Highway:	175-225 miles
97	ULEV AND ILEV CERTIFIED DODGE RAM WAGON	
	Ram Van/Ram Wagon	Ram MaxiVan/Ram MaxiWagon
Engine	5.2L, V8	5.2L, V8
Transmission	4 Speed Automatic	4 Speed Automatic
Seating (Max)	Up to 12	Up to 15
Fuel Capacity	11.1 Gal Std.	14.5 Gal Std
@ 3000 psi	14.5 Gal, Opt.	
Range		
City:	100-150 miles	100-150 miles
Highway:	150-200 miles	150-200 miles
97	ULEV AND ILEV CERTIFIED CNG MINIVANS DODGE CARAVAN/PLYMOUTH VOYAGER	
Engine	3.3L, V-6	
Transmission	4-speed automatic	
Seating (Max)	7 Passenger	
Fuel Capacity	10.1 Gal.	
@ 3000 psi	Equivalent	
Range		
City:	125-175 miles	
Highway:	175-225 miles	

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Gas for less than a dollar

Coalition pushing gains of natural gas for autos

By Alexis McDaniel

STAFF WRITER

FAIRMONT — City Manager Bruce McDaniel tools around town in a Ford Explorer that can be powered by gasoline or compressed natural gas. It's not the only one of its kind in the city's fleet either.

Of the city's water and sewer department's 50 vehicles, six of them are bi-fuel. And the Fairmont Police Department recently began using an all natural gas cruiser.

At a time when gasoline prices are rapidly rising and hovering around \$1.50 per gallon (for the least expensive unleaded), the West Virginia Natural Gas Vehicle Coalition hopes drivers take another look at alternative fuel sources.

Rory Williams of Hope Gas and a promoter of the Coalition said a survey last week of the more than two dozen natural gas stations in West Virginia showed prices ranging from 75-99 cents per equivalent gallon of gasoline.

The first natural gas pump station was opened in West Virginia in 1991, but a serious effort to have them installed and educate drivers began around 1994-95, he said.

at the Bonasso Citgo and the new Exxon at the Kingmont Exit of I-79, Williams said.

He said natural gas prices have remained stable for the past five years and there are now around 1,500 natural gas vehicles on West Virginia's roads.

"Natural gas prices at the pump do not have the same influences that are driving up gas prices now," he said.

The gasoline hikes have been blamed on oil refinery problems and threats from suppliers in other nations, he said.

The natural gas used to power a vehicle is the same stuff used in homes for heating and cooking, but at stations, the gas is compressed as it is funneled into a storage tank.

Of course, drivers can't put natural gas into a standard gasoline engine. So to use the fuel, an existing vehicle has to be converted to bi-fuel use. Or a bi-fuel or all-natural gas vehicle can be purchased from a dealership, Williams said.

Converting a vehicle to bi-fuel costs between \$3,500-\$4,500 and takes a mechanic about two days, he said. The process involves installing lines, a pumping area and a storage tank, which usually is placed in the trunk of a car or



Danny Snyder/Staff

Patrolman Jeff Fairley fills up the City of Fairmont's only all-natural gas vehicle at the Fair Mart Chevron. The city has seven other bi-fuel vehicles, which can use gasoline or natural gas.

cost more as a result of the technology.

There are pros and cons of using a natural gas vehicle.

Some of the benefits include:

credit for natural gas vehicles licensed in the state and or \$2,000 deduction on federal income tax fillings.

• Fuel costs that are 30-60 cents per gallon lower than

environment.

Williams owns a dedicated natural gas vehicle and a bi-fuel truck. He knows firsthand they aren't for everyone — at least for now. He said people

benefit the most.

In larger cities, public buses are an excellent application because residents support quiet, cleaner emissions, he said.

THE STATE JOURNAL Online POLL

WHAT DO YOU THINK?

Do you think National Guard troops should patrol U.S. borders?

Vote at statejournal.com through next Tuesday. We'll list the results here in our next issue.

LAST WEEK'S RESULTS

We asked visitors to West Virginia Media's Web sites, "Did you vote in this year's primary election in West Virginia?"

Here are the results:

■ Yes — 59 percent

■ No — 41 percent

Total votes: 1,079

This poll is not scientific and reflects the opinions of only those internet users who have chosen to participate. It does not necessarily reflect the overall opinion of West Virginia residents.

News In Numbers

UP FRONT

www.statejournal.com
May 19, 2006 • Page 3

Consumers Cope With Fuel Prices

MANY MOTORISTS CAN'T DRIVE LESS EVEN AS THEY PAY MORE FOR GASOLINE

By BETH GORCZYKA

bethg@statejournal.com

SOUTH CHARLESTON — Jill Oliver's business is fueled by gasoline.

But with the cost of petroleum hovering around \$70 per barrel recently, some of Oliver's top customers say they have no choice but to cap their fuel consumption.

For her small company, Oliver's Fuel and Oil, those threats are a little worrisome. Oliver's business depends on both retail customers who fill up their cars and trucks, and construction and industrial customers who buy fuel wholesale from her.

"They've been complaining a lot," Oliver said of her customers. "They keep saying they are going to do this, or do that and



PAM KASEY / The State Journal

Dulaney Oil Co. in Morgantown is the only gas station in the state that is selling high ethanol gas known as e85. The fuel is made from corn and averages about 20 cents less per gallon than traditional petroleum-based fuel.

though, as summer rolls in.

opened up some opportunities

tional petroleum-based fuel.

"The downside about it is that the closest ethanol plant is in the Midwest, and we have to ship it in," Kelly said. "Those shipping costs add about 30 cents to each gallon. The other downside is that there is a little loss on the miles per gallon users get."

Right now, e85 fuel makes up a small percentage of Dulaney Fuel's total business, but Kelly said he believes his business will grow significantly in the future. General Motors, Ford and Chrysler make cars with the "flexi-fuel" system that can use ethanol-based fuel.

"(E85) is not my bread and butter yet — I still need the other stuff for my business," he said. "But eventually I'd like to have four or five more stations around the state — one in the southern part, one in the Eastern Panhandle, one in the west and one or two in the central part of the state."

Risch said the current high gas prices could spell success for other types of fuel, too. She said as long as petroleum costs

Hybrid technology goes commercial

By Chris Woodard
LATITUDE

Hybrid cars and trucks, which use gas-electric technology, have become the poster children for energy savings in the automobile world. But industry has been paying attention, as well. Hybrids are quietly starting to show up in other transportation uses, from inventories to construction equipment.

Auto makers own several hybrid and other "green" commercial vehicles on test. President Bush said they will play a role in meeting his administration's goal of reducing gasoline consumption by 20% over 10 years.

"There are many technologies in the market that are being used every single day, but have to be more we can do," he said.

Hybrid commercial vehicles are bigger versions of the same basic technology that's going into cars. In automobiles, most hybrids rely on when city traffic is at its worst. Otherwise, wasted energy is captured during braking. It's stored in batteries, which discharge to assist the engine during acceleration.

Hybrid technology shows the most promise in commercial vehicles that idle for long stretches or do a lot of starting and stopping.

Auto engineers agree that hybrid commercial vehicles, like cars, will be a bridge to fuel cells or other emissions-reducing technologies that will save even more gasoline and create less pollution. "We see it as a critical step in achieving zero-emissions technologies," says Peter Bush, a vehicle engineer for the U.S. Department of Energy.

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Here are some of the commercial applications for hybrid technology:

Locomotives

Steel-switching locomotives can sit idling for hours while waiting to move rail cars from track to track. That's where the Green Goat comes in. The locomotive carries a small 200-horsepower diesel engine with 30 miles of track-side batteries.

It cuts the use of diesel fuel by more than 40% in a typical day and is a normal all-diesel locomotive, often times an old line locomotive put out to pasture.

Railways, the Canadian company that makes the Green Goat, says it has sold more than 50 of them, dispatching them to California and Texas.

The price is about \$1.2 million each.

Now, the company is working on lowering fuel-saving locomotives, but they aren't hybrids.

Excavator

A prototype hybrid excavator — the newfangled name for what was once known as a steam shovel — was displayed at a trade show in Las Vegas in January. The machine operates on a 2.0-liter diesel engine and other machine components, and parts of both electric motors and generators, says Paul Gabeira, brand manager manager for the excavator line of New Holland and Ingersoll Rand Construction Machinery America.

The batteries are recharged every time the excavator swings to the side to move a load of dirt or debris into a waiting dump truck. The company believes the system will reduce back-fuel use and emissions by up to 40%.

Delivery vans

FedEx is building a fleet of nearly 100 hybrid delivery trucks. The company estimates that the hybrids get 57% improved fuel economy and domestically cut emissions. They were developed by FedEx in conjunction with Lotus and Environmental Defense and are deployed in several cities across the country, from Sacramento to Tampa.

When President Bush recently ordered several fuel-saving commercial vehicles, one of them was a plug-in hybrid van from DaimlerChrysler, which is not pending to use them.

The automaker says that up to 20 Sprinter full-size vans will be tested in addition to the four already in service. It said the vehicles that are still in the New York Times for use for newspaper delivery.

As the hybrids that can be charged from electric outlets overnight, Sprinters can travel 20 miles on electricity alone before the diesel engine kicks in.

Transit buses

This is among the most promising frontiers as transit agencies everywhere, aided by federal grant, adopt hybrid technology in bus fleets. In fact, the first hybrid bus was built in Washington, D.C., in 1999. Since then, the hybrids are a mix of diesel and electric, some more gas-electric, some more electric.

A hybrid diesel-electric bus, which meets and goes from block to block, can cut fuel use by 27%, says Kevin Wadsworth, chief test and evaluation director for the National Renewable Energy Laboratory. The savings have shown up in tests at transit agencies in Seattle and New York.

But not always. In Long Beach, the transit agency has gradually built up its fleet of 14 hybrid buses. It has an average of 1.3 miles a gallon, says Jim Ditch, vice president of Long Beach Transit.

One big plus: The buses have dramatically lower maintenance costs than the old diesels.

School bus

A school district in Manatee County, Fla., just received a plug-in hybrid school bus. It's the first of 10 that will be delivered to districts in 10 years.

For an average 45-mile route, the buses can get double the diesel fuel mileage as conventional school buses, says Randall Fox, manager of product development for K, a Navistar subsidiary.

"The upside from the school is, 'We teach our students about energy use, and we need to be a good example,'" says Fox.

But the new buses come at a price. A typical conventional or 12-passenger bus can cost \$70,000. Making it into a hybrid version can cost twice as much.

Charleston Daily Mail

Tuesday April 8, 2008 2:56 pm

News

Tuesday April 8, 2008

Pair convert car to run on batteries

by Cory Jackson
For the Daily Mail

HUNTINGTON - Mike Beahm is asking the same question as everybody else.

"Have you driven by a gas station and seen the prices lately?"

The difference is, Beahm has the skills and motivation to do something about it.

Beahm and his son-in-law, Matt Rowe, have rigged up a car powered entirely by batteries.

The subject of their experiment is a 1989 Ford Festiva.

It's not a pretty car by any means, Rowe admitted.

"We wanted something small and lightweight," Beahm said.

The pair purchased the car for \$600. They have spent about \$4,250 converting the Festiva to run on batteries, Beahm said. The car does not have a gas tank, muffler system or a radiator.

"The converted system runs great," Beahm said. "Any trouble we've had has been with the original components of the car."

The car requires six 12-volt batteries to power the drive system and an additional battery to operate the car's accessories, including the radio and lights, Rowe said. Initially, all seven batteries were placed in the back of the car, but noticing the car was dangerously unbalanced, Beahm and Rowe shifted two of them to the front.

Without a radiator, the car lacks a heating system, but for the convenience of never having to buy gas, it's a sacrifice Beahm and Rowe said they are willing to make.

The car's charging system can be plugged into any outlet and takes about four hours to fully charge. Once charged, the car can only travel about 15 miles at a top speed of 45 miles per hour, Beahm said.

"You're limited on range and speed, but for a back and forth to work and errand car, you can't beat it," Beahm said.

The duo said they are in the planning stages of their next effort, wherein they hope to convert a small truck, such as an S-10 or a Ford Ranger, Rowe said. Those trucks will

<http://www.dailymail.com/News/200804080235>

4/8/2008

allow for a greater number of batteries while remaining lightweight, Beahm said.

"Based on what we learned, we feel like we can improve the range and speed significantly," Beahm said.

Beahm has a background in engineering, financed the project and worked with the electrical component of the car. Beahm, 50, of Huntington owns High Performance Heat Treating, where both men are employed. He graduated from Virginia Tech University with a degree in engineering.

Rowe, a car whiz, focused on applying Beahm's ideas to a vehicle. Rowe, 21 and also from Huntington, is a welder at High Performance Heat Treating. The two men have known each other for about two years.

Now they carpool to work together in the morning and alternate taking the car on small errands, such as to the bank or grocery shopping, Rowe said.

Aside from the money saved on gas, Beahm and Rowe said their motivation stemmed from a desire to free themselves and others from the dependence on foreign oil.

"There are too many other developing nations, like China and others, who are beginning to drive more and are going to be competition when it comes to supplying oil," Beahm said.

Beahm said he has been contacted from as far away as Georgia and Florida by people interested in having him convert their car, but the logistics of shipping a car or traveling were too complicated.

Others have successfully completed the conversion, but Beahm and Rowe said they are the only ones from this area to do so.

"Everyone who does it seems to have a Web site chronicling their adventures with it," Beahm said. "We haven't done that yet, but maybe we should."

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4/8/2008

Hydrogen fueling station opens for service at Yeager Airport.



Yeager Airport Hydrogen Fuel Station Dedication

*August 17, 2009
2:00 PM*



NETL's Hydrogen Research & Development/ Test & Evaluation Platform



Monday, August 17, 2009

2:00 PM- 2:45 PM

Commissioning of Yeager Airport Hydrogen Facility
And Press Conference, Remarks from:

- Anthony Cugini,
 - National Energy Technology Laboratory
- W. Kent Carper
 - President of Kanawha County Commission
- Representative Shelley Moore Capito
 - 2nd Congressional District
- Major General Allen Tackett
 - West Virginia National Guard
- Curt Peterson
 - Vice President, West Virginia University
- Gug Sresty
 - Parsons Engineering
- Scott Slyfield
 - U.S. Air Force – Advanced Power Technology Office

2:45 – 3:45 PM

Demonstrations of Hydrogen Vehicles & Fuel Cell

3:45 PM

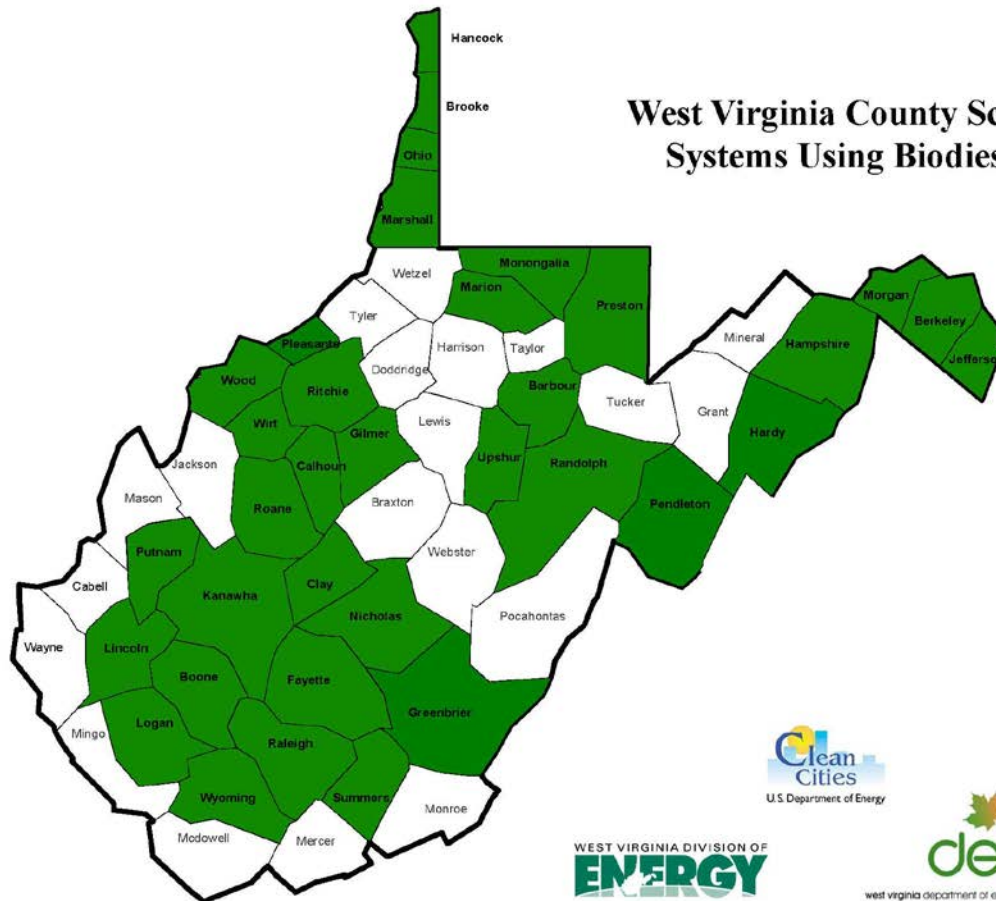
KRT Bus Departs Yeager for Embassy Suites





2009





2010



McDonalds opens second electric charging station in nation in Charleston, WV.



The W.Va. Clean State Program hosts the NAFTC Petroleum Reduction Technologies Regional Coordinator Training in Charleston, WV.



Compelling Case for Natural Gas Vehicles in Charleston, WV



Alternative fuel vehicles on display at State Capitol Complex



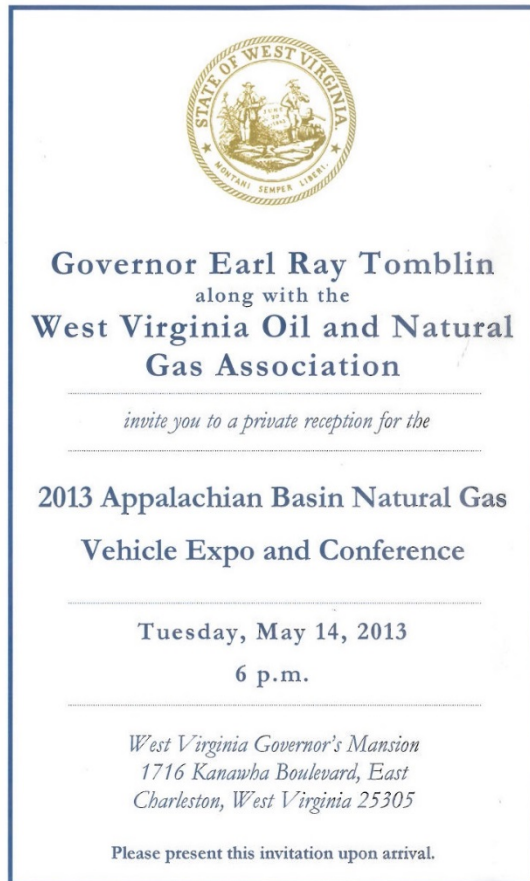


2012





First Appalachian Basin Natural Gas Vehicle Expo held in Charleston, WV.







The W.Va. Clean State Program hosts a stakeholder meeting at the NAFTC headquarters in Morgantown, WV.



CNG stations open in Charleston, Jane Lew, and Bridgeport, WV.



W.Va. Division of Highways drivers learn about CNG fueling



IGS Energy/CNG Services CNG fueling in Charleston, WV.



The W.Va. Clean State Program hosts a stakeholder meeting at the CNG station in Bridgeport, WV.

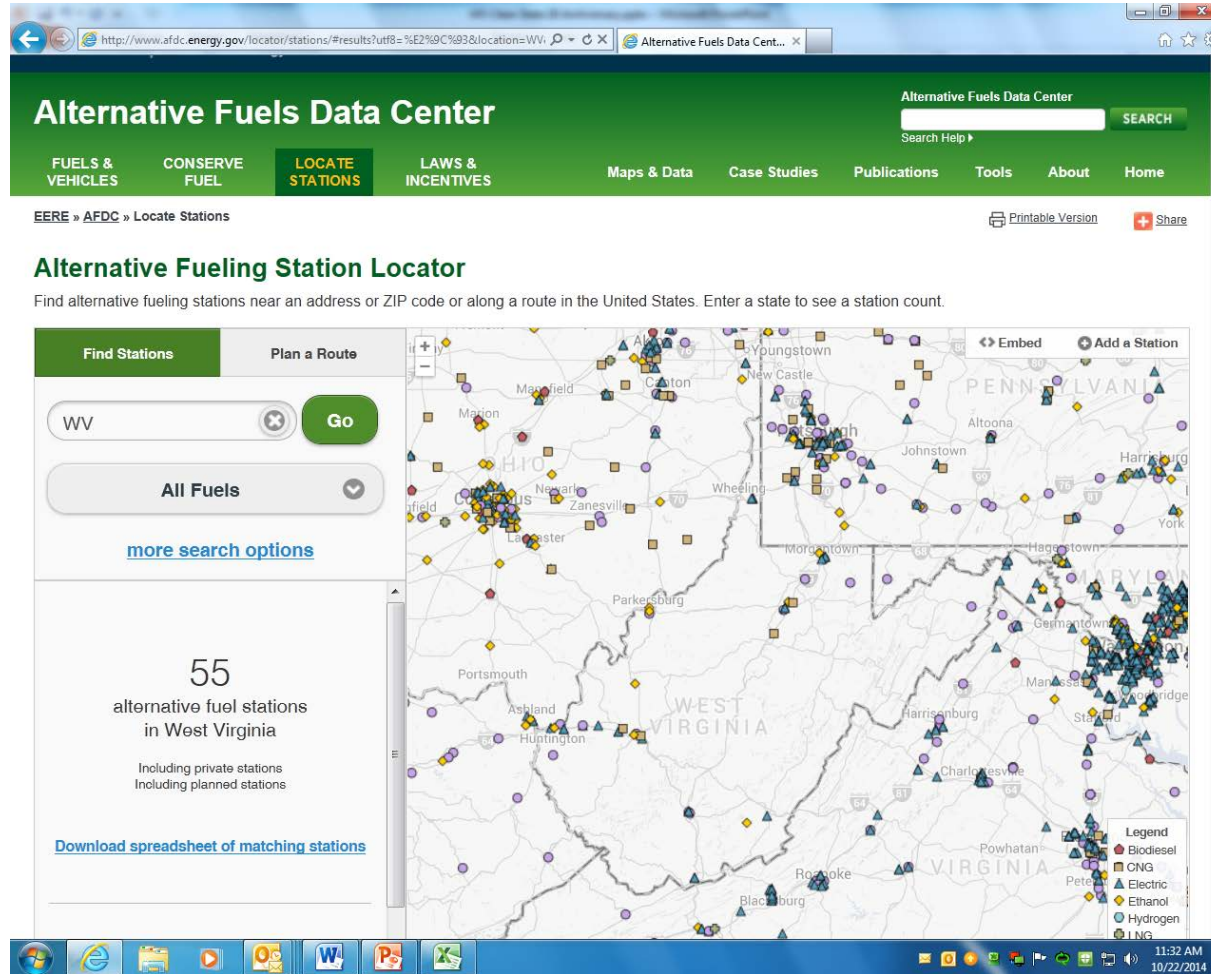


The W.Va. Clean State Program and NAFTC host a series of natural gas and propane workshops for fleets in Bridgeport, Charleston, and Wheeling, WV. More are scheduled in 2015.





55 alternative fuel stations in West Virginia



2 biodiesel
4 CNG
9 E85
28 electricity
12 propane

West Virginia Clean State Program

www.energywv.org/cleanstateprogram

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