



T. Boone Pickens Media Coverage 1.9.10-1.11.10

Total of 4 Placements

Coverage Summary:

The Chattanooga Times Free Press ran an op-ed by Pickens on Sunday that discusses the role Chattanooga can play in helping to improve America's economy, environment and national security due to the natural gas contained in the Chattanooga Shale. A companion piece written by a University of Tennessee at Chattanooga professor explains modern natural gas drilling techniques and highlights natural gas' ability to lessen our dependence on foreign energy resources while also fostering a cleaner environment.

Highlighted Placements (Full Articles Below)

- **The Power to Change; City, Region Key to Ending Reliance on Foreign Oil** – *Chattanooga Times Free Press* – 1/10/10
- **Chattanooga Shale's Role as an Energy Resource** – *Chattanooga Times Free Press* – 1/10/10

Print Placements (Full Articles Below)

- **Fort Worth Duo Launches Dealership for Fuel Cost-Conscious** – *Fort Worth Business Press* – 1/11/10
- **Cap and Trade Would Hurt the Economy, Raise Energy Prices** – *Springfield News-Leader* – 1/9/10

HIGHLIGHTED COVERAGE

The Power to Change; City, Region Key to Ending Reliance on Foreign Oil – *Chattanooga Times Free Press* – 1/10/10

By T. Boone Pickens, The Pickens Plan

Tennessee generally and Chattanooga in particular are poised to be major players in America's energy future. The natural gas contained in the Chattanooga Shale deposit is part of a national transition to natural gas as a principal transportation and energy fuel.

Until recently, it was believed that there were relatively limited amounts of recoverable natural gas reserves in the continental United States. That all changed with the development of new drilling techniques which made available the enormous amounts of natural gas that are contained in America's vast shale deposits — one of which sits under Chattanooga.

The four major shale plays are in Texas, Arkansas, Louisiana and the massive Marcellus shale deposit in Appalachia. Along with the many smaller — but still critically important — shale deposits under the continental United States, the prestigious Potential Gas Committee released a study in June indicating that we may have as much as 2,000 trillion cubic feet of natural gas reserves, which would provide for all of our needs for the next 118 years.

Yet we continue to import hundreds of millions of barrels of oil every month.

In October, for example, we imported 350 million barrels of oil at a cost of \$26.5 billion. On an annualized basis, that is a third of a trillion dollars being sent to countries like Saudi Arabia, Nigeria and Venezuela every year.

This continued dependence on foreign oil is the greatest national security threat facing America today. We cannot allow foreign dictators to believe they can dictate America's energy future. We have the resource to control our own energy destiny.

Seventy percent of the oil we import is used as a transportation fuel. It is refined into gasoline and diesel to power our 250 million cars and light trucks and our national fleet of 6.5 million over-the-road trucks.

Every one of those vehicles could run on domestic natural gas instead of imported oil.

Looking over the horizon, we are aiming toward a day when cars will run on batteries and heavy trucks will run on hydrogen fuel cells. Natural gas is off-the-shelf technology. Worldwide there are some 10 million natural gas vehicles (NGVs) in service. But there are only about 130,000 here in the United States.

Cheap oil has been the culprit in preventing the moving of America's vehicles away from gasoline and diesel, but those days are gone forever. Oil averaged about \$70 per barrel in September and closer to \$80 per barrel in October.

As an environmental matter, natural gas produces half the greenhouse gas of gasoline, and, when compared to diesel's all-too-well known particulate emissions, natural gas is the clear winner. CARTA — the Chattanooga Area Regional Transportation Authority — has instituted electric-powered buses for its downtown shuttle service, but many municipal transit authorities are moving away from diesel power and toward natural gas, especially as the cost of fuel and life-cycle costs have decreased.

When we began the Pickens Plan 18 months ago, oil prices were sky-high but no one had a clue what to do about it. Since then the elements of the Pickens Plan — wind and solar energy, a smart grid, and energy efficiency — have all been dealt with in Congress. The one remaining issue — the big one — is natural gas.

Right now, a bill in Congress — the NAT GAS Act — is gathering momentum in both the House and the Senate. This bill would jump start the NGV industry in the United States by providing tax incentives for fleet operators to replace their cars and trucks with NGVs.

In the House there are 120 bipartisan co-sponsors, and in the Senate the bill was introduced by Majority Leader Harry Reid, D-Nev., Sen. Bob Menendez, D-N.J., and Sen. Orrin Hatch, R-Utah — again an example of the bipartisan support that moving away from imported oil and toward domestic natural gas is generating.

Importing two-thirds of the oil we need every month is also a matter of national security. Those who remember the Arab oil embargo of the 1970s will also remember the gas lines, and the overall economic and cultural disruption that caused.

It is useful to remember, as well, that we imported less than a quarter of our oil in 1974 — as opposed to well over 60 percent today.

Chattanooga has proved itself to be one of America's most forward-looking cities. With the contribution the shale deposits will make to America's energy future, Chattanooga can only enhance its great reputation — and be a major player in helping improve America's economy, environment and our national security.

T. Boone Pickens is founder and chairman of BP Capital and architect of the Pickens Plan. He can be reached at boone@pickensplan.com.

Dr. Ann E. Holmes, Professor at UTC

I grew up in an era when oil company advertisements depicted dinosaurs jumping off diving boards and turning into swimming pools of oil underground. That image, while it captures the imagination, is not at all correct in depicting how hydrocarbons form. For the most part, oil and gas (hydrocarbons) come from breaking down solid kerogen, which began as organic matter. This organic matter comes from dead microscopic plants and animals that collected along with sediments in ancient stagnant lakes and shallow seas. These sediments and organics were buried under tons of additional sediment that filled the lakes and seas over time. This overlying weight compacted the sediment and turned it to stone. Increasing burial depth raised both the temperature and pressure on the kerogen. For hydrocarbons to form from kerogen, a narrow range of temperature and pressure must be maintained. This oil/gas window is a "Goldilocks" zone of "just right": too cold and the kerogen never mobilizes, too hot and the hydrocarbons are destroyed underground.

Usually, hydrocarbons are squeezed out of organic-rich source rock (usually shale). The gas and/or oil travel through tiny interconnected pores until they escape to the surface or are trapped in a reservoir rock (usually sandstone or limestone). Historically, petroleum companies have looked for hydrocarbons that have moved some distance from source rocks and are trapped by barriers formed by suitable structures or seals in reservoir rocks.

However, modern drilling and production techniques allow petroleum companies to make a leap to produce hydrocarbons directly from source rock. This involves drilling vertically down through overlying sedimentary layers until the source rock is located, in a similar fashion to traditional drilling. A new technique can then be applied. Gyroscopes and computers allow the drill to change direction in order to follow the layer of shale more horizontally. This produces more hydrocarbons from thin layers because more of the rock is now in contact with the bore hole. Because the tiny grains of sediment in shale are so tightly packed, gases and liquids don't flow well through them. To counteract this, another technique is applied that involves hydraulic fracturing of the rock underground to create pathways for the hydrocarbons to flow. This is achieved with lots of high water pressure. Sand grains are injected to hold the cracks open so that hydrocarbons will flow for a longer time and at greater rates.

Three shale beds that occur over large regions — the Mississippian Floyd Shale, the Devonian Chattanooga Shale and the Ordovician Conasauga Shale — are targets for hydrocarbon production using these innovative drilling and production techniques. These shales and their equivalent units are present in the Appalachian Basin, which extends from Alabama to New York, in the Black Warrior Basin of Alabama and Mississippi, and in Arkansas. These unconventional source-rock reservoirs may be able to supply additional, much needed natural gas to the United States. Transporting this prospective natural gas resource does not present a problem. Networks of natural-gas pipelines already transect the United States, able to carry this resource to a variety of markets.

Chattanooga Shale is a black, organic-rich, fine grained rock that was first documented here in Chattanooga along the banks of the Tennessee River at the base of Cameron Hill. It is 10 to 20 feet thick in our area. In recent years, a thin band of it was exposed in Stringer's Ridge along the west side of U.S. Highway 27 near Olgiati Bridge before it was covered by soil and grass. Many people thought it was coal. This black shale was deposited during the late Devonian and early Mississippian geologic time periods, in a long narrow seaway that stretched from Alabama to New York.

The organic matter in Chattanooga Shale contains two types of kerogen derived from two very different sources: 1) ocean dwelling microorganisms and 2) land-dwelling plant material that washed into the oxygen-poor Chattanooga Shale seaway. The organic matter stayed intact because there was not enough oxygen in the water to allow bacteria to consume the organics. The organic content of most organic-rich shales ranges from 1 percent to 8 percent of the rock — more than enough to generate hydrocarbons, given the right conditions. The kerogen in Chattanooga Shale experienced conditions common in the upper margins of the oil/gas window and has generated mostly natural gas.

When natural gas is burned, it releases less than half the carbon dioxide (CO₂) and none of the particulates, trace elements or compounds that contribute to air, water and ground pollution that burning coal usually releases. The dominant form of natural gas produced from shale is CH₄ or methane; other natural gas components include ethane, propane and butane. Each methane molecule has one carbon and four hydrogen atoms — one of the highest carbon-to-hydrogen ratios. Burning methane breaks the four bonds with hydrogen atoms (providing the energy we seek), while releasing only one carbon waste atom into the atmosphere.

Whether the natural gas produced from black shales is burned as fuel for natural gas-powered vehicles or to generate electricity, the result will be to reduce atmospheric levels of CO₂ and foster a cleaner environment in many ways, and to lessen our dependence on foreign energy resources.

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PRINT COVERAGE

Fort Worth Duo Launches Dealership for Fuel Cost-Conscious – *Fort Worth Business Press* – 1/11/10

By John-Laurent Tronche

The Lone Star State might be known for its affinity of big trucks and V8s, but that isn't stopping two Fort Worth entrepreneurs from working to sell Texans vehicles of a different, typically smaller sort.

Dale Long and Scott O'Neal, who have spent the better parts of their careers working for automobile dealerships, last year launched EVCARCO Inc., a Fort Worth-based alternative-fuel vehicle dealership they hope will become the first of many in a national network.

"People largely are unfamiliar with these vehicles," said O'Neal, chief operating officer. "We realized there was an opportunity to educate the public."

The first EVCARCO dealership is located in an industrial area near Interstate 820 and State Highway 121 – also the headquarters for the publicly traded company. Customers can shop the micro-dealership's selection online, choosing from vehicles powered in a host of ways: electric, compressed natural gas, hybrid cars and more. Long and O'Neal launched the company after researching the alternative-fuel vehicle market for about two years, deciding now is as good a time as any to leave the old business model behind for a new venture in an emerging market.

"About two years ago, Scott and I started talking about a new wave of the auto industry," said Long, CEO. "We realized the existing model and traditional dealerships were already in trouble back then."

Dealerships were getting too big and too expensive to build. Dealerships were competing to sell the cheapest cars out there, just to get people in the doors. Inventory levels had grown so much that it was "insane" in terms of what was being stored versus what's being sold, Long said. In the 1980s, new car inventories were a 60-day supply.

"Today, in some cases there is as much as a 120-day supply," he said. "You show me any industry that stocks a 120-day supply of anything. It's just not a good formula."

The two were interested in owning their own dealership, but given the problems they saw with the traditional model, clearly, something had to change.

"Everybody would love to have one of the most popular franchises in the world – Lexus and Toyota or even Honda – but the price to buy those territories is millions and millions of dollars," Long said. "On top of that, your return on investment could be 10 or 20 years down the road."

O'Neal asked Long: What do you think of alternative-fuel vehicles?

"Everybody was going green – it's a new buzz word, going green, and being environmentally friendly," Long said. And a business idea was hatched.

They're not the only ones who see opportunity; billionaire T. Boone Pickens has been vocal in his support for CNG-powered vehicles, and in late 2008 Warren Buffett grabbed a 10 percent stake in Chinese automaker BYD Auto, which each year is creeping ever closer to selling 1 million electric cars per year.

Changing perceptions

Recognizing that building a network of dealerships would be a capital-intensive affair – about \$2 million per location, Long said – they took the company public in October 2009 to raise money. They're cleared

to offer franchises in 30 states and already they're considering owning between eight to 10 corporate-owned dealerships.

But that's all in the works.

"Over the last two years, I don't know how many places we've been to look at vehicles – China, Japan, Canada, all over the United States," O'Neal said. "We've seen so many different products from different manufacturers."

What they need to do now is educate the consumers. So far, the reception has been good.

Typically, Texans might own one sedan and one SUV or truck – the former used for errands and the larger vehicle typically used for work.

"I think initially we'll see that kind of activity: I don't think anybody will ever give up their petroleum-based car at the start," Long said, "but they might consider substituting their run-around vehicle for an alternative-fuel vehicle."

He compares the transition to that of the pager-cell phone.

"When the cell phone first came out it was bulky, cost prohibitive and not sophisticated. But people started buying them but wouldn't give up their pagers right away," Long said. Prices of cell phones went down, coverage grew wider and plans got better. "I think people are going to do the same thing (with alternative-fuel vehicles that) they did with cell phones."

Cap and Trade Would Hurt the Economy, Raise Energy Prices – *Springfield News-Leader* – 1/9/10

Here's the Modern Whig Party view on cap and trade.

Why take those energy sources we currently use, heavily tax them and by doing so, raise our monthly cost to fuel our cars, heat and air condition our homes? You're right, it doesn't make sense and yet we have a bill in Congress that currently will do so. As we know, it is called the cap and trade bill. (H.R.2454)

Yes, we need to move to alternative energy sources as our current domestic sources are estimated to only last 150 years as we understand it at this time. So the alternative energy sources of solar, wind, biofuels and nuclear energy are the way to go in the future. However, for the most part, except for biofuel and nuclear energy, they are not totally viable at this time due to limitations in design and efficiency. Yet, though challenged, we can get these alternative energy sources up and running within 50 years and move slowly from the dependence on oil and coal that fuel our energy needs today.

In truth, our Congress wants to make a statement to the world that the USA is a leader in climate change. In their efforts to do so, we the citizens they represent, will be forced to pay higher energy costs as well as watch as our economy deteriorate due to the misguidance of our Congress.

The Modern Whig Party has a tenet for energy and national security.

Why did we lump the environment with national security? Because elimination of our dependency on foreign oil is a national security issue as it takes away a significant amount of cards from our enemies. For example, cartels are illegal in the U.S. but, at the same time, we rely on the OPEC cartel for our oil. Expedited funding and research into viable green technology is part of the answer. It also is a major developing industry where we can make lots of money and create tons of jobs. At the same time, we represent a new generation of "truth-buster." At the turn of the 20th century, Teddy Roosevelt broke up the monopolies that stifled small business and economic growth. Now is the time to bust up the oil companies. These companies are designed, as they should be, to make money for their shareholders.

We support this. The Modern Whig Party understands that corporations would actually be violating the rules if they strayed from their fiduciary duties toward their shareholders. However, oil companies have no business owning another energy resource such as coal. Believe it or not, clean coal technology exists and if permitted to grow, West Virginia and southeast Ohio will become the engine of a focus on natural gas, wind and solar power as outlined and paid for in the Pickens Plan. Lastly, please contact your congressmen and let them know we don't want the cap and tax bill passed.

Aubrey Jack Young is a Whig Party coordinator and with the Springfield Modern Whig Coalition. He can be contacted at swcoordinator@missouriwhigs.org.
