



Drumbeat: February 7, 2010

Posted by [Gail the Actuary](#) on February 7, 2010 - 9:09am

Topic: [Miscellaneous](#)

[Racking up miles? Maybe not.](#)

Within a few years, a driver who pulls up to the gas pump may pay two bills with a single swipe of the credit card: one for the gas and the other for each mile driven since the last fill-up. That may be the result of what many transportation experts see as an inevitable revolution in the way Americans pay for their highways.

The flow of the gas tax pipeline that has poured cash into one of the world's premier highway systems has slowed as some people drive less and others choose more fuel-efficient vehicles. Maintaining that aging network and tackling the rush-hour congestion afflicting most cities will require billions of dollars.

[Gas drilling in Appalachia produces a foul byproduct](#)

A drilling technique that is beginning to unlock staggering quantities of natural gas underneath Appalachia also yields a troubling byproduct: powerfully briny wastewater that can kill fish and give tap water a foul taste and odor.

With fortunes, water quality and cheap energy hanging in the balance, exploration companies, scientists and entrepreneurs are scrambling for an economical way to recycle the wastewater.

Wastewater from drilling has not threatened plans to develop the nation's other gas reserves. Brine is injected into deep underground wells in places such as Louisiana, Texas and Oklahoma, or left in evaporation ponds in arid states such as Colorado and Wyoming.

However, many doubt the hard Appalachian geology is porous enough to absorb all the wastewater, and the climate is too humid for evaporating ponds. That leaves recycling as the most obvious option.

[A fracking quandary for EPA](#)

IF THE United States is going to curb its greenhouse gas emissions, it desperately needs

a replacement for the high-carbon coal that fuels almost half the nation's electricity. Unfortunately, there are downsides to all the alternatives, from nuclear power, which carries a high cost and emits toxic waste with no place to store it, to wind turbines, which also have a high cost and require extensive transmission lines to link windy areas with cities.

Now new deposits of natural gas previously locked in shale formations are making that fuel look like a possible transition to a low-carbon future. Federal and state regulators have to ensure, however, that the rush to exploit this new source of gas does not cause severe environmental damage. The US Environmental Protection Agency could have been an effective referee over this process. Yet the gas industry managed to slip into the 2005 energy bill an exemption from EPA review of the special drilling that shale formations require. Congress should repeal that provision.

[US GAS: Futures End Higher On Cold Weather Expectations](#)

Natural gas futures ended higher Friday on forecasts for cold weather that is expected to drive demand for the fuel.

Natural gas for March delivery on the New York Mercantile Exchange settled 9.9 cents, or 1.83%, higher at \$5.515 a million British thermal units. The front-month contract climbed as high as \$5.598/MMBtu in earlier trading.

Meteorologists were predicting cold winter weather that can stoke demand for gas to heat homes and businesses. The National Weather Service is forecasting below-normal temperatures across the Midwest, Southeast and Mid-Atlantic Feb. 12-18.

[Turkey requests Iran, Russia to revise 'take-or-pay' conditions](#)

Searching for ways to increase sales amid a contraction in natural gas demand, Turkey has asked Russia and Iran, two of the country's biggest natural gas suppliers, to revise their "take-or-pay" conditions.

Turkey's natural gas consumption has dropped noticeably in the past few months. This contraction followed hikes in gas prices during 2009. The government, therefore, does not take kindly to paying money for unused gas.

[Iran discovers new oil, gas fields](#)

Iranian Oil Minister Masoud Mirkazemi announced two oil and gas fields have been discovered respectively in western Kermanshah and southern Fars provinces.

Soumar oilfield with 475 million barrels of in-situ crude oil reserve, 70 million barrels recoverable, and Halgan gas field with the daily production capacity of 50 million cubic meters of gas have been recently discovered, the Mehr news agency reported.

[Peak Oil Exploration Stocks](#)

In the absence of takeovers, exploration group valuations are starting to look stretched at current oil prices. Tullow's stock is trading at a 2% premium to net asset value while the rest of the sector is trading at a modest 12% discount, based on an oil price of \$79 a barrel, according to UBS research.

In such a shifting competitive landscape, further share price rises will depend not only on the independents' ability to maintain recent exploration success rates and control costs, but also much higher oil prices

[Crude Oil Leads A Broad Selloff](#)

"A lot of people piled in [the oil market] at the beginning of the year, and at the beginning of this week," when investors held a more-optimistic economic outlook, said Andy Lebow, senior vice president for energy with MF Global in New York. "There's a sense of uneasiness about ... how robust the recovery's going to be."

The main concern this week was that tentative signs of economic growth will evaporate if governments begin to dial back stimulus measures. In Europe, investors fear Greece, Spain and Portugal will need deep spending cuts and other punishing fiscal measures to bring debts under control. The U.S. is grappling with its own deficits, making a repeat of last year's stimulus spending unlikely, while China began restricting lending last month to prevent high inflation.

[Nature inadvertently produces its own oil spills](#)

Then where do oil and gas in U.S. waters come from? A report from the National Academy of Sciences published in The Economist found that petroleum exploration and extraction causes 1 percent of the total, while spillage from ships accounts for three percent.

Thirty-one percent comes from land runoff including leakage from our vehicles, boats and power lawnmowers. Where does the rest originate?

A whopping 61 percent comes from "natural seepage." Just like the La Brea tar pits in California, oil and gas arises from petroleum deposits below the seabed. Ironically, offshore drilling reduces pressure and actually decreases levels of natural pollution in the ocean.

[Iraq plans to become OPEC's top oil producer](#)

Iraqi Oil Minister Hussein Al Shahrstani said his country would steadily increase oil production over the next seven years.

Al Shahrstani said this would make Iraq the world's top oil producer over the next six to seven years.

[Arctic climate changing faster than expected](#)

"(Climate change) is happening much faster than our most pessimistic models expected," said David Barber, a professor at the University of Manitoba and the study's lead investigator, at a news conference in Winnipeg.

Models predicted only a few years ago that the Arctic would be ice-free in summer by the year 2100, but the increasing pace of climate change now suggests it could happen between 2013 and 2030, Barber said

[Black Carbon a Significant Factor in Melting of Himalayan Glaciers](#)

The fact that glaciers in the Himalayan mountains are thinning is not disputed. However, few researchers have attempted to rigorously examine and quantify the causes. Lawrence Berkeley National Laboratory scientist Surabi Menon set out to isolate the impacts of the most commonly blamed culprit -- greenhouse gases, such as carbon dioxide -- from other particles in the air that may be causing the melting. Menon and her collaborators found that airborne black carbon aerosols, or soot, from India is a major contributor to the decline in snow and ice cover on the glaciers.

"Our simulations showed greenhouse gases alone are not nearly enough to be responsible for the snow melt," says Menon, a physicist and staff scientist in Berkeley Lab's Environmental Energy Technologies Division. "Most of the change in snow and ice cover -- about 90 percent -- is from aerosols. Black carbon alone contributes at least 30 percent of this sum."

[New errors in IPCC climate change report](#)

The United Nations panel on climate change is facing fresh criticism today as The Sunday Telegraph reveals new factual errors and poor sources of evidence in its influential report to government leaders.

[Climate change research bungle](#)

The research institute run by the head of the UN's climate body has handed out a series

of environmental awards to companies that have given it financial support, The Sunday Telegraph can disclose.

[Arizona Renewable Energy Standard Under Attack From Right](#)

Arizona was one of the healthy energy states, with a requirement for 15% renewable energy by 2025. But now a Republican state representative in the Arizona state legislature is challenging the right of the Arizona Corporation Commission to set a requirement that utilities add more renewable energy, with a bill that would strip them of the responsibility.

[China's edge in renewable energy](#)

In the United States, power companies often face the choice of buying renewable energy equipment or continuing to operate fossil-fuel-fired power plants that have already been built and paid for. In China, power companies have to buy new equipment anyway, and alternative energy, particularly wind and nuclear, is increasingly priced competitively. Interest rates as low as 2 percent on bank loans — the result of a savings rate of 40 percent and a government policy of steering loans to renewable energy — have also made a difference.

As in many other industries, China's low labor costs are an advantage in energy. Although wages have risen sharply in the past five years, Vestas still pays Chinese assembly line workers only \$4,100 a year.

[Irish OceanEnergy and US Dresser Rand start partnership on innovative wave energy technology](#)

Under the agreement, Dresser-Rand will develop and supply the turbines needed to transform wave energy into electricity using the OceanEnergy Buoy (OE Buoy). A scaled version of the OE Buoy has been tested in Atlantic Ocean waters during two years at a government test site on Galway Bay. The concept is the result of 7 years of research and development. An important characteristic of the device is that it only has one moving part: the turbine.

This is an original, simple and radical change when compared with other wave energy generators that usually have multiple parts in motion. The OE Buoy is hollow. It has a chamber inside. The bottom is open to allow the flow of ocean water inside in one direction: up or down. It is also open on top where the turbine is placed. It transforms the energy from the waves moving vertically inside the buoy which displaces the air within the chamber. The displaced air is used to move the turbine to generate electricity. Here is where Dresser-Rand turbines are used, the only moving element of the OE Buoy.

Ireland hopes to generate 600MW of electricity with these OE Buoys deployed on its

coast. This will be enough energy for almost half a million homes.

[Nuclear renaissance could stall, Canada group says](#)

Expectations of a sharp rise in nuclear generating capacity over the next two decades are likely overblown, a Canadian think tank said on Thursday, disputing conventional wisdom that a nuclear renaissance is in full swing.

Standing in the way of new construction are costs that can run up to \$10 billion per new reactor, competition from other, cheaper, energy sources, the problem of safely disposing of nuclear waste, and concern about the spread of nuclear weapons, the report said.

"On balance, a significant expansion of nuclear energy worldwide to 2030 faces constraints that, while not insurmountable, are likely to outweigh the drivers of nuclear energy," it said.

[In D.C. area, outages, snow plowing conspire against normal week ahead](#)

"We think it will be Tuesday or Wednesday before people can think about getting to work," said Sean T. Connaughton, Virginia's secretary of transportation.

It might be almost as long before power is restored to thousands of homes and businesses after the heavy snow and high winds conspired to topple trees across power lines throughout the region. Streets impassable even for utility companies' massive vehicles amplified the challenge.

[Riding the Rails, Until the Weather Caught Up](#)

When the powerful Mid-Atlantic winter storm grounded all flights and shut down highways in the Mid-Atlantic region, Amtrak's Capitol Limited, bound for Chicago from Washington, seemed to offer 115 passengers the perfect cozy alternative as it sped through the snow-swept countryside on Friday night.

But around 2:45 a.m. on Saturday, the train made an unscheduled stop just outside the former coal-mining town of Connellsville, Pa., 57 miles southeast of Pittsburgh. There, downed trees and power lines blocked the Capitol Limited, stranding and infuriating passengers who said they were not updated about the situation.

[Electric Motors, Made to Order](#)

Tailoring electric motors for duty in vehicles has necessitated the development of new materials, sophisticated electronic controls and some clever design variations, said Heath Hofmann, an associate professor of electrical engineering and computer science at the University of Michigan in Ann Arbor.

[Zoom Replaces Missing Vroom](#)

As more hybrid and battery-electric vehicles enter the marketplace, though, the maxim is being transformed. Returning to a role in propelling vehicles that largely disappeared decades ago, electric motors are attracting attention from automakers, who see the need for hybrids and E.V.'s to have personality and character that parallels their brand's image.

[Toyota tells dealers it'll send them plans for fixing Prius brakes](#)

Toyota sent a message to its beleaguered dealers Friday night saying they would be getting details of a plan this week to deal with brake-system problems on the 2010 Prius. But there was no word on what that plan might be, or whether there would be a recall.

[Centralia, Pa., coal fire is one of hundreds that burn in the U.S](#)

Approximately 200 underground coal fires burn in about 20 states, according to Glenn Stracher, a researcher at East Georgia College in Swainsboro, Ga., A separate tally shows 112 fire sites in 21 states, according to Office of Surface Mining data analyzed by Dr. Stracher and fellow researcher Ann Kim.

[Centralia, Pa.: How an underground coal fire erased a town](#)

There's not much left of the northeastern Pennsylvania coal town these days. Even in the early 1980s, some two decades after the underground fires began, more than a thousand people called Centralia home. But as the poisonous gases continued to seep from fissures in the ground, and as the sudden sinkholes threatened to cast people into the smoldering depths, the town emptied out.

[Low-flow toilets have improved](#)

I've become immersed the history and recent technological advances of the toilet. (For instance, did you know the derivation of the word? It's from the word toile: "French for 'cloth' draped over a lady or gentleman's shoulders whilst their hair was being dressed, and then ... by extension ... the whole complex of operations of hairdressing and body care that centered at a dressing table."

That helped me understand something that has puzzled me since childhood: the difference between eau de toilette and perfume

[Green firewood: A chimney sweep's view of danger](#)

A Fairbanks chimney cleaner has given the News-Miner photos of some of the most creosote-clogged chimneys he's recently seen in hopes of preventing death by chimney fire. It's a problem Charlie Whitaker says is getting worse as dry firewood gets harder to come by in the city. Besides clogging chimneys, wet firewood has been blamed for a good part of Fairbanks' intractable winter air pollution problem.

[Rebate on solar water heater cut to \\$750](#)

(Honolulu) The rebate available to homeowners for installing solar water heaters has been cut to \$750 from \$1,000 because high demand is depleting the amount in the ratepayer-funded program, officials said yesterday.

[Electricity rates going up](#)

February residential electricity rates will rise for customers of Hawaiian Electric Co. and its sister subsidiaries because of higher fuel costs. Hawaiian Electric Co. said the typical 600-kilowatt-hour bill for O'ahu residential customers will rise to \$148.23 from \$145 in January. The effective rate for electricity in Honolulu is 23.60 cents per kilowatt hour, up from 22.66 cents last month.

[All-electric car appears as city gets charged up](#)

Nissan's new all-electric vehicle, the Leaf, made a quiet appearance on Friday, showing off its nearly silent motor as it rolled about the Reliant Stadium parking lot and signaling what the city hopes may be the start of an electric movement on Houston's streets.

“With ongoing research and development of wind, solar and electric fuel sources, we are on the cusp of becoming the alternative energy capital of the world,” Parker said. “It is fitting that the city be a leader in increasing public awareness of environmentally friendly transportation alternatives like the Leaf.”

[Shtokman postponed 3 years](#)

A press release from the company confirms that a final investment decision in the project's pipeline part will be taken in March 2011, while the decision on the LNG part will be taken before the end of 2011, newspaper Vedomosti reports.

[Pindiites face low gas pressure](#)

The low pressure of Sui gas again hit many parts of the Rawalpindi City making it

difficult for the residents even to cook their meals.

They urged the concerned authorities to address the problem as dealers of liquefied petroleum gas (LPG) selling the gas in black and charging from Rs150 to 170 per kilogram while many using firewood and kerosene oil as alternatives.

[Tajiks Buy Into State Power Plant Initiative](#)

With the Tajik government desperately seeking funds to finish a pet project of national importance, the people appear to be buying into the country's dream of being an energy exporter.

Government officials, religious figures, and citizens have been lining up behind the presidentially inspired effort to generate enough cash to complete the long-unfinished Roghun power plant by issuing shares in the state company directly to individuals and organizations.

[Find the best energy deal as price war looms](#)

About 8 million households will benefit from a surprise decision by British Gas to cut prices by an average of 7pc last week – but it still makes sense to check that your fuel bills are as low as possible.

[Green light for show homes to sell eco-town project](#)

One hundred "eco-show homes" are to be built to allow people to "test drive" green living as ministers try to convince the public that controversial eco-towns can work.

This week the Housing minister, John Healey, will announce the start of building work on the properties in towns near to the four sites earmarked for Britain's first zero-carbon developments. Work will start next year on a further 10,000 eco-homes that will be for sale in the areas.

[Decision on Shtockman postponed](#)

The development of the giant Russian offshore gas field Shtockman in the Barents Sea has been postponed. The Board of the Shtockman Development has voted to delay investment decisions until next year.

[Zhengzhou-Xi'an high-speed rail starts operation](#)

XI'AN: A high-speed railway linking central China city Zhengzhou and northwestern city Xi'an, went into operation Saturday. The 505-km Zhengzhou-Xi'an high-speed railway, the first of its kind in central and western China, cut the travel time between the two cities from former more than six hours to less than two hours, said local railway authorities Saturday. The train traveled at 350 kilometers per hour, said Long. A total of 14 trains would be traveling between Zhengzhou and Xi'an every day, said Long.

[Minivans drive up auto sales growth](#)

China's automobile market continued its robust growth in January, with sales surging 84 percent from a year earlier, heavily boosted by minivans, China Passenger Car Association said on Friday.

Rao Da, the association's secretary-general, said a total of 1,218,722 cars, sport-utility vehicles, multi-purpose vehicles and minivans were sold last month, an increase of 84.2 percent year-on-year and 5.1 percent from December.

[Shandong's efforts to clean up clogged waterways prove futile](#)

The Eastern Route of the South-to-North Water Diversion Project, one of the world's largest water projects, has been delayed by about five years due to problems associated with water pollution, officials in east China's Shandong province said on Friday. Construction of the Eastern Route of the project, which aims to divert water from China's rainy south to its dry north, is now expected to be completed in 2013.

[Ukraine to Buy 8.5 Billion Cubic Meters of Gas in 1Q](#)

Ukraine will import 8.5 billion cubic meters of natural gas from Russia this quarter because of freezing temperatures, said Ihor Didenko, first deputy chief executive officer at NAK Naftogaz Ukrainy. The country will keep its plan to import 27 billion cubic meters from Russia in all of 2010,

[Iran's Azadegan Oil Field Output at 40,000 bpd](#)

Daily output at Iran's Azadegan oil field has reached 40,000 barrels per day (bpd) and will soon hit 50,000 bpd, Deputy Oil Minister Seifollah Jashnsaz was quoted.

"The daily output of the Azadegan oil field reached 40,000 barrels following an increase of 13,000 barrels after the completion of seven new wells," Jashnsaz, who also heads the state National Iranian Oil Company (NIOC), told the semi-official Mehr News Agency.

[Power Import From India To Start Thru' Kushtia Border](#)

Ramkrishnapur under Bheramara upazila in Kushtia has been primarily selected for setting up of 250KV power sub-station aiming electricity import from India.



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