What is The “Marcellus Shale,”
And Why Are We Concerned?

“Marcellus Shale” is a large geologic formation of black shale located primarily beneath the states of New York, Pennsylvania, West Virginia, and eastern Ohio.

Named for the Marcellus outcropping in Marcellus, N.Y., the shale is located approximately a mile below the surface. The thickness of the shale is not uniform throughout the formation as it varies from 50 feet to as much as 900 feet thick.

The natural gas trapped in the pores, vertical fractures and organic material of this formation – particularly in the thicker sections – make the Marcellus Shale possibly one of the most abundant sources of natural gas in the nation, if not the world.

Under the Dome
By Donald S. Garvin, Jr.
WVEC Legislative Coordinator

Week 5 - The Oil Patch

I moved to West Virginia in 1982 to drill gas wells. Actually, I moved here to work for my father who, while living in Oklahoma City had managed to put together a successful oil and gas production company in West Virginia.

My father is a petroleum geologist, and when things got slow in the Oklahoma “oil patch,” he spent a lot of time away from home putting together leases for other companies in Michigan, Ohio and West Virginia. His companies in West Virginia evolved out of that.

He was a hard worker and a good businessman. But more than that, he is an honest man who still has a good reputation in the West Virginia oil patch. He helped many of the current players here get their start in the industry.

I moved here to Buckhannon to oversee the operation so my father could spend more time at home.

There must have been a lot of karmic convergence going on in my life at that time.

For one thing, our “field man” was none other than Mike Ross. Yes, you heard me right – our field man was Senator – now Delegate – Mike Ross. In fact, the first real meal I ate in West Virginia was a wonderful spaghetti dinner prepared by Mike’s wife Joanne at their house in Coalton.

One of the first persons Mike introduced me to was the new head of the WV Office of Oil and gas, Ted Streit. That was my first glimpse of the West Virginia regulatory process.
WVEC's Annual E-Day!
Wednesday, February 24th

At the Capitol
9 am till 3 pm - Lower Rotunda
Environmental Lobby Day - Booths & more ....
Buffalo Creek Disaster Remembered: 2:00 pm

E-Day Benefit Dinner & Award Ceremony
Women's Club of Charleston - downstairs
5:30 pm - 8:30 pm
Soup, Salad & Desert Buffet
Cost: $15 donation

WVEC 2010 Awards Presented - 7:00 pm:
Mother Jones: Winnie Fox
Chuck Chambers Public Service: Delegate Barbara Fleischauer
Linda Schnauz Courage: Vernon Halton & Sarah Halton
Laura Forman Grassroots: Bill Howley
Green Entrepreneur: Matt Sherald, “Power In My Back Yard”
Youth Activism: Zoe Beaver

E-Day After Party
The Empty Glass - 410 Elizabeth Street, Charleston
9:00 pm - 11:00
Live Music! Several musicians will be joining us
Cost: $5 donation

Legislative Session 2010 Information Sources:

Legislative Reference & Information Center:
MB-27, Bld. 1 - State Capitol Complex, Charleston WV 25305
WV Legislative web-site: www.legis.state.wv.us
(For bill tracking, bulletin board (journals), legislators’ e-mails.)
To Call Toll Free: 1-877-565-3447 or Charleston area: (304) 347-4836
Listen Live: West Virginia Legislature page http://www.legis.state.wv.us/
and click on “listen live.

WV Environmental Council Web-site: www.wvecouncil.org
WVEC Office: (304) 414-0143

Ohio Valley Environmental Coalition:
Every morning, OVEC checks scores of news sources and posts links.
Under the Dome ..... continued from page 1

One of the first persons Ed Streit introduced me to was Dave McMahon, who at the time was running something called the Surface Owners’ Rights Coalition. That was my first glimpse of environmental activism in West Virginia.

One of the first things Mike did after I moved in was to drag me down to Charleston for the Independent Oil and Gas Association’s annual legislative meeting. That was my first glimpse of West Virginia politics.

And one of the first persons I met after moving to Buckhannon was Steve Thacker. Steve is a mechanic who pumped gas at his father’s gas station (remember those days?). One of the first things Steve did was convince me to join the Mountaineer Chapter of Trout Unlimited.

So there you have it. Gas wells, government, politics, environmentalism, Trout Unlimited, clean water – that’s how it all seemed to converge, all at about the same time in my life.

One of my earliest recollections of working in the oil patch was driving back to town with Mike Ross after a trip to a well we were drilling in Upshur County. The road we were on followed a small creek that had been muddied up some by our drilling operation.

Mike said, “Now don’t worry, Donnie. There’s no trout in that stream.”

I made myself a promise, then and there, to try not to let something like that happen again.

Another of my early recollections was opening the local Buckhannon newspaper one morning to be confronted with a top-of-the-front page banner headline that read: “Mud Means Progress – Mike Ross.” And there were photos of Mike and the reporter on a bulldozer in the middle of one of our well roads that could only be described as a deep sea of mud.

Mike said, “Now don’t worry, Donnie. There’s no trout in that stream.”

I made myself a promise, then and there, to try not to let something like that happen again.

Another recollection of mine involves an annual Heartwood meeting I attended that was held here in West Virginia. I was still working in the oil patch, but was also heavily involved in the environmental movement.

The keynote speaker at that meeting was Dr. Orie Loucks, an expert on the effects of air pollution on forests and tree growth. In his speech, Dr. Loucks made the statement that the best thing we could do for healthy trees and forests was quit burning coal and start using more natural gas, the cleanest burning fossil fuel.

I jumped to my feet and shouted, “Yes!”

That’s pretty much how I feel to this day.

I personally think we can drill gas wells and still protect our land and water. And I personally think that natural gas is our best option for a “transition fuel” as we attempt to deal with the serious issue of climate change.

But this is a different time and the industry has discovered vast new natural gas reserves in shale formations across the country. To get at these reserves the industry has developed major new drilling and fracturing techniques that bring new environmental concerns about protecting water and land resources.

In West Virginia, this “natural gas play” is known as the Marcellus Shale. That’s what this issue of the Legislative Update is all about.

It’s time for both industry and the government to step up to the plate and agree upon regulations that will adequately protect our surface and ground waters from pollution by these new drilling techniques.

I think they can do it.

Old Man Winter keeps sending us blast after blast, so please help out our fine-feathered friends and keep your bird feeders full.

Marcellus and the Legislature

The Legislature will be confronted with the environmental issues surrounding Marcellus Shale drilling on several fronts.

First, there is the Oil and Gas Well Drilling Rule (35CSR4). Thursday the rule passed out of the Senate, with a nasty little amendment that changes the pit liner requirement from mandatory to optional. The rule now goes to the House.

Secondly, there is HB 4001 that would require DEP to adopt a water quality standard for total dissolved solids and addresses other Marcellus water issues as well. The bill was introduced by Delegate Barbara Fleischauer (D-Monongalia) and has been referred to the House Government Organization Committee.

Finally, two versions of a bill drafted by the Legislative Oversight Commission On State Water Resources will soon be introduced, one in the Senate and one in the House. Both versions include new regulations for water quality and quantity.

We will keep you posted as bills progress.
While early (2002) United States Geological Survey (USGS) reports stated that the Marcellus Shale contained an estimated 1.9 trillion cubic feet of natural gas, subsequent exploration and recent efforts of oil and gas companies to produce gas from the shale have lead experts to believe that as much as 31 trillion cubic feet of gas may be recoverable from the Marcellus formation.

So, what is a trillion cubic feet of gas? Natural gas is generally priced and sold in units of a thousand cubic feet (“mcf”, using the Roman numeral for one thousand). Units of a trillion cubic feet (“tcf”) are often used to measure large quantities, as in resources or reserves in the ground, or annual national energy consumption. A “tcf” is one billion “mcf” and is enough natural gas to:

- Heat 15 million homes for one year;
- Generate 100 billion kilowatt-hours of electricity;
- Fuel 12 million natural gas fired vehicles for one year.

Three factors have come together in recent years to make shale gas production more economically viable:

1) advances in horizontal drilling;
2) advances in hydraulic fracturing;
3) and rapid increases in natural gas prices in the last several years as a result of significant supply and demand pressures.

Currently, the drilling and completion of shale gas wells includes both vertical and horizontal wells. However producers are increasingly relying on horizontal well completions to optimize recovery and well economics. Horizontal drilling provides more exposure to a formation than does a vertical well. The technique involves drilling vertically down to the producing formation, then drilling horizontally through a long stretch of the formation. In addition, six to eight horizontal wells can be drilled from only one well pad, and can access the same reservoir volume as sixteen vertical wells.

Because of the density and low permeability of shale rock, the shale formation must be treated to release gas contained in it. Hydraulic fracturing – or “fracking” – is a commonly used treatment that involves the injection of fluids into wells to pressurize and fracture the shale in order to release the trapped gas. Although the term “hydraulic” suggests that water is used for this process, a mixture of chemicals is also used to help the formation fracture. Oil field service companies have recently developed technologies that allow producers to better frack the longer stretches of the shale exposed by horizontal drilling.

This combination of advances in horizontal drilling and hydraulic fracturing technologies has resulted in the ability of the operator to produce larger volumes of the natural gas trapped in the shale formation in an accelerated period of time. The current higher demand and increased prices for natural gas more than supports the higher costs of using these new technologies.

So the boom is on!

**Potential Environmental Effects**

Conventional natural gas drilling and production is a major industrial activity with a host of environmental consequences. Effects can range from water contamination related to drilling and disposal of drilling fluids, air quality degradation from internal combustion engines on drill rigs and trucks, excess dust from equipment transportation, impacts to solitude and night skies from noise and lighting, and safety concerns associated with the large number of trucks needed to support drilling operations.

However, “unconventional” shale-gas drilling, such as in the Marcellus Shale play represents a huge leap in technology, and causes an exponential increase in surface disturbance, water use and waste disposal.

Larger Sites: The rigs being used to drill horizontal sections are larger and require more space than conventional drilling techniques. Whereas conventional oil and gas wells result in 1-1/2 to 3 acres of disturbance at the drill site, Marcellus well sites are likely to range from 4 to 6 acres. These larger sites increase the potential of polluting streams with sedimentation from surface runoff.

High Water Use Needs: The horizontal drilling method used in the Marcellus Shale requires huge amounts of water to drill and frac these wells. Traditional (i.e., vertical) gas wells typically use less than one million gallons, but horizontal wells can require up to 6 million gallons per well. If, as projected, a large number of gas wells are drilled in the Marcellus Shale, a significant amount of water will be needed to develop well fields.

**continued on page 5**
Where will this water come from? West Virginia currently has no program to regulate water withdrawals from the state’s invaluable rivers and streams.

**Large Volumes of Wastewater:** The large volume of water used to fracture Marcellus wells is mixed with a variety of chemical additives (known as “frac fluids”). Frac fluids typically contain brine and materials such as demulsifiers, corrosion inhibitors, friction reducers, clay stabilizers, scale inhibitors, biocides, breaker aids, mutual solvents, surfactants, anti-foam agents, defoamers, viscosity stabilizers, iron control agents, diverters, emulsifiers, foamers, oxygen scavengers, pH control agents, and buffers.

After fracturing some of the frac water “flows back” and must be disposed of. And after the well is put into production, more of this frac water along with formation brine water flows back. This “produced fluid” must also be disposed of.

Frac fluids, flowback water, and produced fluids all contain high amounts of “total dissolved solids,” primarily consisting of high levels of salt (chlorides). West Virginia currently has no protective water quality standard for total dissolved solids.

As in the management of any liquid waste and particularly those of large volume, there is both an increased potential for a release to the environment in handling the larger volumes and the potential for greater effects should a larger release occur (e.g., in breaching of some retaining structure).

Where will this water be disposed? West Virginia currently has inadequate disposal options for Marcellus well wastewater. West Virginia has no requirement for public disclosure of, let alone regulation of, the chemicals that can be put into the water used to frac a well.

**Potential Aquifer Contamination:** In most areas of the Marcellus Shale play induced fractures from treatments should not create a geological pathway to usable quality aquifers. This is because there are often thousands of feet of rock between fresh water aquifers and the shale being treated. However, if development with hydraulic fracture treatments occurs where the Marcellus is shallow and in close proximity to usable quality water zones, aquifer contamination could occur.

An appropriate concern in all cases is that companies must utilize proper surface casing design and cementing to isolate and protect aquifers from downhole pathways of contamination. It is equally important that operators monitor casing pressures throughout the life of a well to identify and correct any downhole leaks that might establish a pathway.

While West Virginia drilling regulations have safeguards in place for the protection of groundwater and surface water, there is a severe shortage of inspectors to enforce these regulations. The Office of Oil and Gas, a division of the WV Department of Environmental Protection, has only 17 field inspectors to cover all the new drilling activity, in addition to the more than 57,000 wells already in production.

**Air Quality:** Air quality issues of concern associated with development of the Marcellus Shale includes NOx emissions from drilling operations, depending on drilling depths. The operation of pipeline compression stations is more of a concern than drill rigs.

On a site-by-site basis, emissions may not be significant but on a regional basis may prove significant as states deal with regional ozone transport. Currently, rural counties in West Virginia are generally “in attainment” for the ozone standard. However, with expanded Marcellus development, this activity may push counties into nonattainment status, particularly since EPA has recently tightened the ozone standard.
Increased Truck Traffic: Normally, exploration, drilling, and production activities associated with oil and gas wells are extremely “transportation intensive.” Large numbers of large vehicles are needed to transport water, equipment and other supplies to the drilling site. Marcellus drilling operations increase truck traffic exponentially, resulting in increases in sediment pollution from runoff to surface waters, air quality degradation from road dust, damage to existing roads, and safety concerns due to the increased traffic.

Estimates are that it will take up to 1,400 heavy tractor-trailer loads to bring a Marcellus well into production. Re-fracturing wells after 3 or 4 years has become common place in some shale plays. If this practice extends to the Marcellus Shale, then truck traffic will have few lulls.

West Virginia has no requirement to gravel the roads even in the worst weather.

In conclusion, while the Marcellus Shale presents a unique opportunity for economic development in West Virginia, it also poses the potential for serious threats to human health and the environment. The West Virginia Environmental Council is dedicated to addressing these threats through appropriate legislation and regulatory reform.

Send Us Your Love!

Valentine’s Day is Sunday and you are all our “sweethearts” and we just know that we are your sweethearts, too.

So why not send us your love “offerings” to help warm us up? We really do rely on your contributions to keep the WVEC lobby team working on your behalf at the capitol. And we need your support now more than ever.

So send us a Valentine gift today and you’ll see how much it will warm your heart as well.

Happy Valentine’s Day to all our Sweeties,

Don Garvin, WVEC Legislative Coordinator
Green Legislative Update

Surface Owners’ Rights Bills Introduced This Week

Two bills introduced this week, SB 529 and HB 4408 (Surface Owners’ Rights Recognition Act) would require drillers to give 10 days notice to the surface owners before coming on to the land to start planning a well site and access road(s).

This notice must include: 1) An offer to meet with the surface owner; and 2) Copies of all applicable statues and rules regarding permitting, soil erosion and sediment control, and damage compensation.

They also require the operator of existing wells to notify the surface owner by phone, mail or personal visit any time before coming out to the land for any purpose other than crossing it to get to other surface land. The surface owner can waive this requirement in a written agreement.

A driller would be required to negotiate a “surface use and compensation agreement” with the landowner before the driller applies for the well work permit. The agreement would set out the following:
1) The location of the well site and associated access road(s), impoundments, pits and pipelines, and how these will be built, maintained and reclaimed.
2) How the driller plans use and dispose of the water needed to drill and fracture the well.
3) Proposed financial compensation for damages.

If the driller and surface owner reach an agreement, drilling can begin almost immediately. However, if the driller does not plan ahead, the most the permitting process can be delayed is 30 days.

If the surface owner and driller cannot come to an agreement, the driller must post a single well bond, instead of using the blanket bond that already covers the drillers other wells. The driller can place the well under its blanket bond when the surface damages are settled, or after two years, whichever comes first.

Failure by the operator to comply with the preceding requirements allows the surface owner to recover three times their actual damages or $200, whichever is greater.

This Surface Owner’s Rights bill addresses several other issues, none of which would present any big hardship to well operators.

For more information contact SORO at: WV-Citizen Action Group, (304) 346-5891.
Website: www.wvsoro.org
Coalition Builds For Marcellus Water Protection Initiatives

By John Christensen
WVEC lobbyist

A broad informal coalition is working to address the wanton development of the Marcellus shale gas play that is catching the Mountain State regulators with their guard down in protecting our state's surface and ground water supplies. The coalition members represent a diverse group that includes the WV Council of Churches, WV Citizens Action Group, the Surface Owners Rights Organization (SORO), several top labor leaders and our WVEC lobby team.

WVEC Legislative Coordinator Don Garvin brought the group together to discuss the several bills that might be considered by the Legislature before the end of this session. These bills could go a long way to address concerns about inadequate regulation of the new techniques used in drilling Marcellus wells, agency understaffing of enforcement inspectors, permitting and well site inspectors, and the lack of job opportunities for our state's growing population of unemployed workers.

The current situation was described by one of the union stakeholders at our meeting as that most of the jobs involved in this huge gas play appear to be filled by out-of-state, non-union workers from Texas and Oklahoma who do little to contribute to the WV tax base or solve our state's unemployment woes. It turns out that rank-and-file union members are also just as concerned as we are about the potential environmental impacts from an uncontrolled drilling boom in the state. WVEC looks forward to strengthening our relationship with this new coalition of friends.

Wrong Turn for West Virginia

By Leslee McCarty
WVEC Lobbyist

Of the three states most likely to be impacted by Marcellus Shale gas drilling - Pennsylvania, New York and West Virginia - guess which one is furthest behind in proposing or passing new regulations to protect its citizens from negative effects of the drilling?

If you guessed West Virginia, you probably live here or saw the movie "Wrong Turn," or both. In any case, you would be correct.

On January 28, Pennsylvania Governor Edward Rendell announced that his state would step up actions to protect residents and the environment from the impact of increased natural gas exploration. He's directing the PA Department of Environmental Protection to hire 68 new well inspectors to join the 100 or so currently on staff (Pennsylvania has 100,000 active wells). Funding for the new positions, says Rendell, will come from money generated by new, higher permitting fees that were instituted just last year.

West Virginia, by contrast, has 17 inspectors for 57,000 active wells with possibly 10 new ones to be hired, "if there are enough permit applications." No talk of upping the $900 permit fee for a Marcellus well, which is about one-third of the amount currently charged in Pennsylvania.

Why the sudden flurry of administrative activity in Pennsylvania? It seems that interest in Marcellus Shale is growing by leaps and bounds. The folks in the gas industry have told Rendell that they expect to apply for 5,200 permits this year - nearly three times the number of permits the state issued in all of 2009.

The State of New York is so concerned that it has declared a moratorium on drilling Marcellus wells until it can get regulations in place.

I was looking around for anything from Governor Manchin that would convey his concern about the Marcellus drilling in West Virginia and all I could come up with were these quotes from a Charleston Daily Mail article reporting on Manchin's comments at the recent WV Independent Oil and Gas Association meeting. These are direct quotes from Manchin:

"Markets and competition are tough enough. You don't need to have government make it tougher."
"You don't go out with a cease-and-desist order you go out with a helping hand."
"You don't need 'gotcha! government."
"We're working on the water situation. I know this could be your biggest impediment. This is the big thing with the EPA."

We are not ready for this.
## Bills We Are Tracking

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<tr>
<th>Bill Number</th>
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<th>Committee</th>
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<td><strong>Senate Bills</strong></td>
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<td>Creating Energy Efficient Building Act (residential and commercial)</td>
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<td>SB 82</td>
<td>Requiring jobs impact statement for proposed legislation</td>
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<td>SB 85</td>
<td>Repealing nuclear power plant ban</td>
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<td>SB 156</td>
<td>Public health assessment of DEP rules</td>
<td>H&amp;HR</td>
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<td>SB 181</td>
<td>Limiting land development ordinances</td>
<td>Econ Dev</td>
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<tr>
<td>SB 183</td>
<td>Limiting diesel vehicles’ idling</td>
<td>Transportation</td>
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<tr>
<td>SB 184</td>
<td>Creating WV Energy Efficient Buildings Program (loan funds)</td>
<td>Transportation</td>
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<tr>
<td>SB 206</td>
<td><strong>Friends of Coal</strong> license plate (Stupid Bill)</td>
<td>Passed Trans, to Finance</td>
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<tr>
<td>SB 211</td>
<td>Creating Protection of Water Act (interesting private land bill)</td>
<td>Nat Resources</td>
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<td>SB 233</td>
<td>Supreme Court Public Campaign Financing Pilot Program</td>
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<tr>
<td>SB 235</td>
<td>Creative Communities Development Pilot Program</td>
<td>Passed Econ Dev, to Finance</td>
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<tr>
<td>SB 236</td>
<td>Creating Aquaculture Development Act</td>
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<tr>
<td>SB 350</td>
<td>Recategorizing recycled energy as renewable energy resource (Ridiculous Bill)</td>
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<td>SB 355</td>
<td>Extending expired terms of Oil and Gas Inspectors’ Examining Board members</td>
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<tr>
<td>SB 357</td>
<td>Extending Hazardous Waste Management Fee</td>
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<tr>
<td>SB 432</td>
<td>Defining “renewable and recycled energy resource”</td>
<td>EIM</td>
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<tr>
<td>SB 441</td>
<td>Changes to solar energy tax credit</td>
<td>Finance</td>
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<tr>
<td>SB 474</td>
<td>Creating Green Buildings Act (WVEC Bill)</td>
<td>Passed Trans, to Finance</td>
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<tr>
<td>SB 489</td>
<td>Determining status of recycling goals</td>
<td>Judiciary</td>
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<tr>
<td>SB 496</td>
<td>Allowing DEP Advisory Council certain rule-making authority (Terrible Bill)</td>
<td>EIM</td>
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<tr>
<td>SB 502</td>
<td>Requiring DEP complete coalmine permits by certain date</td>
<td>EIM</td>
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<tr>
<td>SB 505</td>
<td>Updating Logging Sediment Control Act</td>
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<tr>
<td>SB 508</td>
<td>Transferring certain powers from DNR to Division of Forestry</td>
<td>Nat Resources</td>
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<tr>
<td>SB 509</td>
<td>Requiring DEP monitor certain litigation</td>
<td>Nat Resources</td>
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<tr>
<td>SB 518</td>
<td>Creating Governor’s Commission to Seize Future of Energy for America</td>
<td>EIM</td>
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<tr>
<td>SB 529</td>
<td>Surface Owners’ Rights Recognition Act (SORO Bill)</td>
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<tr>
<td><strong>House Bills</strong></td>
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<tr>
<td>HB 2321</td>
<td>Extending the alternative-fuel motor vehicle tax credit (Great Bill)</td>
<td>Finance</td>
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<tr>
<td>HB 2375</td>
<td>Removing plans and zoning exemption for mining and manufacturing</td>
<td>EIL</td>
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<tr>
<td>HB 2499</td>
<td>Require DEP remediate waste tire piles consisting of more than twenty-five tires</td>
<td>Passed Jud, to Finance</td>
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<tr>
<td>HB 2948</td>
<td>Green Buildings Act (2009 Stakeholder Bill)</td>
<td>Gov Org</td>
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<tr>
<td>HB 3096</td>
<td>Providing tax credits for the sale of locally grown produce</td>
<td>Agriculture</td>
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<tr>
<td>HB 3279</td>
<td>Prohibiting permits for slurry injection and sludge impoundments (Great Bill)</td>
<td>EIL</td>
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<tr>
<td>HB 4008</td>
<td>Green Buildings Act (WVEC Bill)</td>
<td>Gov Org</td>
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<tr>
<td>HB 4001</td>
<td>Regulating Marcellus Shale Gas Well Drilling (Great Bill)</td>
<td>Gov Org</td>
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<tr>
<td>HB 4012</td>
<td>West Virginia Energy Efficiency Act (WVEC Bill)</td>
<td>Gov Org</td>
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<td>HB 4130</td>
<td>Supreme Court Public Campaign Financing Pilot Program</td>
<td>Judiciary</td>
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<tr>
<td>HB 4162</td>
<td>Providing tax credit for certifications by US Green Building Council</td>
<td>Passed EIL, to Finance</td>
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<tr>
<td>HB 4187</td>
<td>Continuing hazardous waste management fee until 2015</td>
<td>Gov Org</td>
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<tr>
<td>HB 4193</td>
<td>Relating to the groundwater protection fund</td>
<td>Passed Nat Res, to Judiciary</td>
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<tr>
<td>HB 4218</td>
<td>Modifying the definitions of “shallow well” and “deep well”</td>
<td>Nat Res</td>
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<tr>
<td>HB 4246</td>
<td>Tax credit for electric plug-in vehicles (Great Bill)</td>
<td>Passed Roads and Trans, to Finance</td>
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<tr>
<td>HB 4249</td>
<td>Requiring DOH loose recycled materials</td>
<td>Roads and Trans</td>
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<tr>
<td>HB 4250</td>
<td>Energy Efficient Building Act (residential and commercial) (Great Bill)</td>
<td>EIL</td>
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<tr>
<td>HB 4262</td>
<td>West Virginia Renewable Energy Act (Great Bill)</td>
<td>EIL</td>
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<tr>
<td>HB 4274</td>
<td>Residential Renewable Energy Systems Tax Credit (Great Bill)</td>
<td>EIL</td>
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<tr>
<td>HB 4276</td>
<td>Energy Efficient Building Act (residential and commercial) (Great Bill)</td>
<td>EIL</td>
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<tr>
<td>HB 4277</td>
<td>Authorizing DEP Secretary to sign NPDES permits (Bad Bill)</td>
<td>Judiciary</td>
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<tr>
<td>HB 4315</td>
<td>Changes to solar energy tax credit</td>
<td>EIL</td>
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<tr>
<td>HB 4391</td>
<td>Expanding Net-Metering for Renewable Energy (Great Bill)</td>
<td>Judiciary</td>
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<tr>
<td>HB 4403</td>
<td>PSC Siting Reforms Bill (WVEC Bill)</td>
<td>EIL</td>
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<tr>
<td>HB 4408</td>
<td>Surface Owners’ Rights Recognition Act (SORO Bill)</td>
<td>Judiciary</td>
</tr>
<tr>
<td>HB 4457</td>
<td>Relating to the access to and protection of cemeteries</td>
<td>Judiciary</td>
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</tbody>
</table>

*(NOTE: All agency rules bills have been introduced in both houses. WVEC is tracking those separately).*
**Calendar of Events**

**February 16:** Environmental Film Festival, Warner Theatre, 147 High Street, Morgantown. $8. in advance or $10 at the door. Hosted by WV Rivers Coalition.  
*For more information:* (304) 637-7201

**February 17:** Rally for Health Care, Jobs & the Economy. Lower Rotunda, state capitol - 11 am. Speakers from WV AFL-CIO, WV Council of Churches, West Virginia's for Affordable Health Care, WV Citizen Action Group. Invited: WV Senator Jay Rockefeller. (By “WV’s United for Social & Economic Justice”)  
*RSVP:* linda@wvcag.org or (304) 346-5891

**February 20:** WV Go Green Convention. WV Wesleyan College, Rockefeller Gymnasium. 12:00 - 5:00 pm.  
*For more information:* contact Shawn McPherson at (304) 669-8459; McPherson_sm@wvwc.edu

**February 24:** E-Day at the Capitol. 9 am till 3 pm. Lower Rotunda. This is our Environmental Lobbying Day - a perfect opportunity to “go ye out and lobby” for everyone. Booth displays, announcements, press conference, Buffalo Creek Disaster commemorated (2 - 3pm) and more are planned.  
*For more information, or for table/booth reservations:* contact Kevin Smith, a_clean_wv@yahoo.com

**February 24:** E-Day After Party! Live music at the Empty Glass. 410 Elizabeth Street, Charleston. Admission donation of $5; per person (or whatever you can afford).

**February 26:** Anniversary of Buffalo Creek Disaster. A program commemorating this 1972 disaster during E-Day at the Capitol, February 24th from 2 - 3pm. Lower Rotunda.

**March 7-9:** Highland Problems & Downstream Connections: An Environmental Summit for the Mid-Atlantic Highlands*. Hosted by the Environmental Research Center at WVU and Canaan Valley Institute. No registration fee, but space is limited. Registration is required.  
*To register and more information:* Betty Michael, 800-922-3601, ext. 252 or betty.michael@canaanvi.org

**March 13:** Session concludes.

**March 13:** Winter Bird Walk. Wildlife Refuge Visitor Center. 8 am. Led by Casey Rucker.  
*For more information:* (304) 866-3858.

**March 27:** Vandalia Garden Festival. Cultural Center, Charleston.  
*For more information:* contact Ann Nye, nyeann@ma.rr.com

**April 16:** WV CAG Spring Fundraiser. Charleston Women's Club. Save this date - details to be announced.


**April 24:** Earthday Celebration. The Appalachian Folklife Center, Pipestem WV. 12 noon - till ??? Music, panel discussion, crafts, children's theater. Camping and dorm rooms available for small fee.  
*For more information:* www.folklifecenter.org or (304) 466-0626

**May 1:** WV Herb Association Spring Conference. Beckley. Stay tuned for more details.

**May 22:** Kanawha Valley Sustainability Fair. Habitat for Humanity ReStore, 301 Piedmont Rd., Charleston. 10 am - 4 pm.

**May 29-31:** Cranberry Backcountry Backpack. 26 mile moderate circuit. Daily mileage: 8/12/6.  
*Pre-registration required:* Mike Juskelis, (410) 439-4964 or mjuskelis@cablespeed.com


**July 10-11:** Lavender Day - at LaPaix Herb Farm. Alum Bridge - Lewis County. Limited to 100 participants only. Includes workshops, guided walks, booths, gourmet lunch by Chef Dale Hawkins. Attendance by reservation only.  
*For more information:* www.lapaixherbfarmproducts.com

**July 10-12:** Cranberry Wilderness Backpack. Hike in 5 miles, camp at Big Beechy Falls. Hiking continues day 2 and 3. 18 miles total.  
*Pre-registration required:* Contact Mike Juskelis at (410) 439-4964 or mjuskelis@cablespeed.com

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Support the West Virginia Environmental Council  
2206 Washington Street East, Charleston WV 25311  
**Phone:** (304) 414-0143  
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Green Legislative Update
Join us for **E-Day**! on February 24th ~
*See inside for details*

*Inside this issue:* Marcellus Shale, Marcellus Shale, Marcellus Shale!