

West Virginia 2011 Energy Summit

“West Virginia Environmental Perspective”



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What I Won't Be Discussing Today . . .

- Mountaintop Removal Coal Mining
- The Big Bad EPA
- The Alternative and Renewable Energy Portfolio Act
- DOE's West Virginia Energy Plan
- Renewable Energy in West Virginia:
 - Solar
 - Wind
 - Hydro
- Energy Efficiency Efforts in West Virginia:
 - EEWV
 - Updating the Building Code
- And the WVEC Citizens' Energy Plan . . .

West Virginia Citizens' Energy Plan

For Economic Opportunities and a Sustainable Future



Developed by the
West Virginia Environmental Council
2nd Edition, July 2008

**Representing West Virginia “Special Interests”:
People Who Want to Breathe Clean Air and Drink Clean Water**

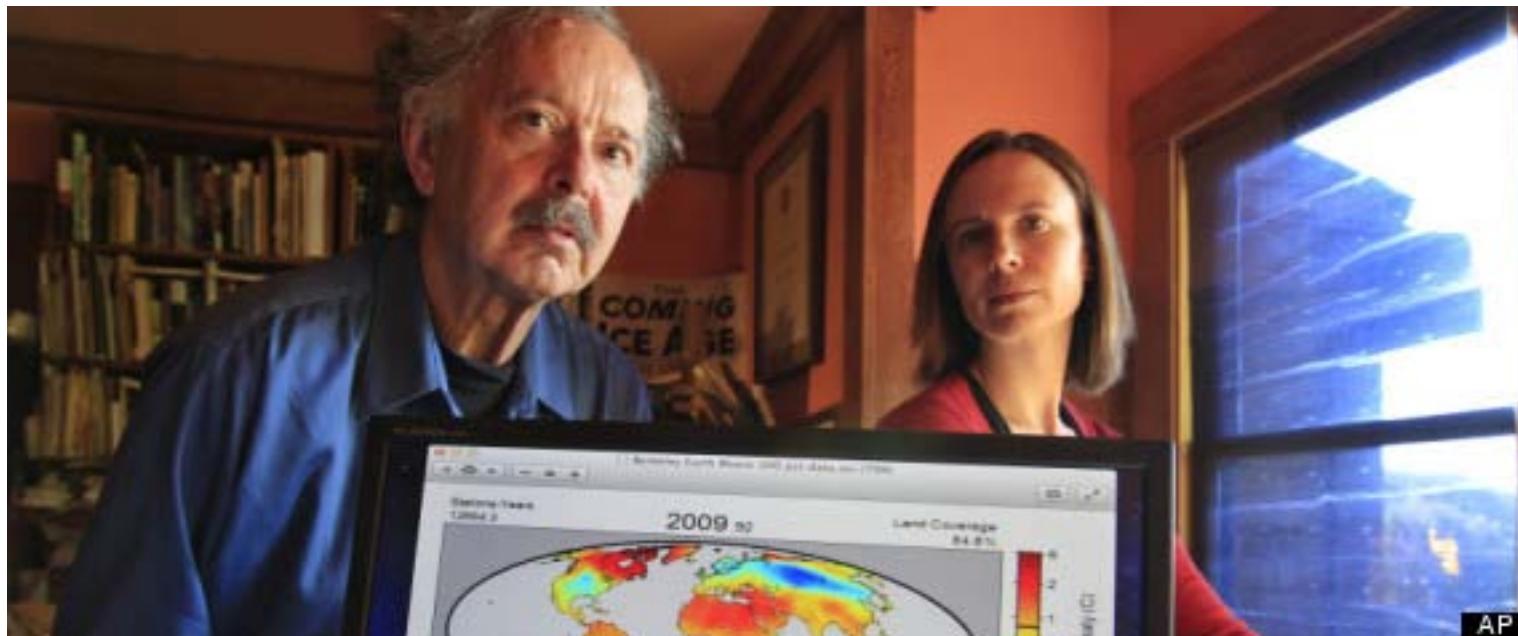
I also won't be discussing . . .

Climate Change

Well, do you still believe in Santa Claus?



Well, I don't know if Richard Muller believes in Santa Claus, but now he says he is no longer a climate change skeptic and global warming is real.



But never mind . . .

Regulating Marcellus Shale Drilling in West Virginia



Marcellus Shale Drilling Is Gas Drilling On Steroids

These well sites are gargantuan. Everything about these “unconventional” drilling operations is exponentially leaps and bounds bigger than conventional gas well drilling: they impact more land, they use more water, they produce more liquid and solid waste, and they emit more air pollution.

Marcellus drilling operations are so huge that the impacts are felt far beyond the surface tracts being disturbed. Impacts can occur to public lands, special places, high quality streams, neighboring landowners, local infrastructure, and to quality of rural life.

“The Industrialization Of Rural West Virginia”

Of course, the money is also bigger. The Marcellus shale formation is now the second largest field of gas in the world. It is twice the size of the gas fields in Saudi Arabia. Major oil companies are buying up gas resources here. Conventional shallow wells that cost \$300,000.00 to drill have given way to 6 to 8 horizontal wells drilled from one well pad. And each horizontal well costs \$3 million or more to drill.

The result is a boom in gas drilling the likes of which West Virginia has never seen, and it is resulting in what can only be described as “the industrialization of rural West Virginia.” The hundreds of large truckloads daily hauling drilling equipment, water, sand and fracturing chemicals on narrow country roads, huge drilling rigs running 24 hours a day, months on end – it all amounts to a major industrial activity. In areas where this drilling is occurring the very nature and character of rural life is changing – perhaps forever.

WVEC's Concerns

This new boom in drilling (and the new technologies associated with it) is still largely unregulated.

Horizontal drilling and hydraulic fracturing cause an exponential increase in surface disturbance, water use and waste disposal, and can pose a serious threat to our land, water and air resources, and public health.

Eliminating, or at the very least minimizing, those threats is the main concern of the West Virginia Environmental Council.

For the last three years WVEC has worked cooperatively with the DEP as well as the State Legislature in efforts to craft a comprehensive state regulatory framework to regulate Marcellus shale drilling that would protect the environment while allowing the drilling to continue.

It now appears that next week the Legislature will have a chance to pass a bill regulating Marcellus shale drilling.

What would WVEC like to see in the bill?



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Essential Elements of an Effective Marcellus Regulatory Bill

Public Notice of Permit Applications: Every permit application to drill a horizontal well should be officially noticed to the public (via newspaper ads, etc.), and should include a 30-day public comment period.

Permit Fees: The permit fee for drilling a horizontal well should be a minimum of \$10,000 per well. We believe the Office of Oil and Gas needs to double its current staff over the next three years.

Well Bonds: A \$25,000 individual bond should be required for each horizontal well. “Blanket bonds” should be eliminated.

Inspectors: The Oil and Gas Inspectors’ Examining Board, which has been historically dominated by the regulated industry, should be eliminated. In its place, the agency should be given the authority to hire inspectors under the civil service system, with an appropriate training program and a six-month probationary period.

Seismic Exploration: The bill should include statutory authority for DEP to regulate geophysical seismic testing.

Essential Elements (2)

Water: Regulation from “Cradle to Grave”

Water Withdrawals: WV should implement an actual permit system for large volume water withdrawals in order to maintain minimum in-stream flows.

Water Content: WV should require an initial listing of chemicals to be used in fracturing a well in the permit application, and a complete listing of the actual chemicals used, and the amounts, should be filed with the completion report and be available to the public.

Wastewater Disposal: The operator should be required to measure and report both the volume of water used to frac a well, and the volume that returns as flow-back water. The operator must maintain an appropriate evidentiary record tracking the disposal of all wastewater.

Flow-back water should not be stored in temporary impoundments or pits. Drilling pit wastewater should be disposed of in the same manner as flow-back water (**no land application**).

WV should also prohibit the disposal of oil and gas well wastewater in underground mines.

Essential Elements (3)

Source Water Protection

- .WV should require the use of a “**closed loop” system** for large volume fracs.
- .There should be a **minimum buffer zones** to distance all oil and gas drilling activities from stream channels and wetlands.
- .No horizontal well should be drilled within 2,500 feet of a surface water source that serves a public water system.
- .All fresh water and flowback water impoundments, and all drilling pits should be constructed with a **dual liner system with a leak detection system** installed between the two liners.
- .WV should end the practice of **burying drilling pits** on site. All drilling pit liners and drill cuttings should be removed and disposed of at licensed hazardous waste landfills.
- .The operator should test all flow-back water and drill cuttings for the presence of **naturally occurring radioactive materials (NORMs)**.
- .All drill site reclamation, including pits, impoundments, roads and pipelines, must be **timely** and prevent the erosion and sedimentation of fresh water streams and wetlands.

Essential Elements (4)

Groundwater Protection

- .No horizontal well should be drilled within 1,000 feet from any existing building or existing water well without the written consent of the owner.
- .No horizontal well should be drilled within 1,000 feet of a groundwater source that serves a public water system.
- .The operator should be required to perform a “pre-drilling” test of all water wells and freshwater springs within 5,500 feet of the bore hole, and provide copies of the test results to the landowner. These tests must be conducted by a certified lab, and include testing for chemicals or chemical compounds known to be commonly used for hydraulic fracturing.
- .The operator should be automatically required to replace damaged or lost groundwater supplies located within 2,500 feet of the well.
- .An oil and gas inspector should be present during each phase of cementing well casings. A cement bond log should be run for each phase of cementing.