



POWERING AMERICA'S FUTURE



West Virginia
WEST VIRGINIA

EXECUTIVE SUMMARY

KEY RECOMMENDATIONS

Energy availability for the United States faces three daunting problems. The first is to guarantee our energy supply. The second is that we harness this energy in an environmentally responsible way. Finally, we need to work to ensure that domestic energy resources can be fully utilized in meeting our national energy needs.

Sustainability

Our country should diversify its energy portfolio to reduce the carbon footprint of electric generation; we should be committed to solving coal's environmental issues while transitioning to new fuels and technologies.

Environmental Responsibility

The CO₂ challenge in coal fired power can be solved by technology we are developing today. This investment in technology should continue. All wealth generated by a carbon tax policy should be directed to these efforts, including value-added coal products and technology.

Independence and Security

Our energy security and economic competitiveness has been fostered by reliable, dependable and affordable domestic energy supplies. Future fuels must also have these attributes.

The innovation and entrepreneurship of our country should be encouraged in all ways to develop our energy future through using our existing resources. This both fuels the economy as well as protects our nation's security.

SUPPLY AND DEMAND

- U.S. derives most of its energy from fossil fuels such as coal, petroleum and natural gas
- U.S. imports 60 percent of its oil
- U.S. has the world's largest coal reserves – and West Virginia is the second-leading state for coal production
- West Virginia is second in the nation in net interstate electricity exports
- West Virginia exports 72 percent of its coal
- West Virginia exports 65 percent of its natural gas

- West Virginia is an energy leader. We are committed to fixing the CO₂ problem through the use of technology
- West Virginia's coal and electric generation capacity helped build this nation and power it through two world wars
- Coal mining provided 22,578 direct West Virginia jobs in 2009 at an annual average wage above \$72,000, generating more than \$1.7 billion in wages
- Annually in West Virginia, the coal mining industry also generates approximately \$8.8 billion in industrial output and accounts for \$831 million in state and local taxes (November 2007)
- West Virginia coal is crucial to our nation's security and reducing our dependence on foreign oil. It must be the transition fuel, as it is economically viable, reliable and affordable, and it can be environmentally responsible through investment in technology
- In West Virginia, we are developing the world's most advanced technology that will let us use domestic energy resources – our coal – until we make the transition to the fuel of the future
- We are finding the necessary balance between jobs, the environment and meeting our nation's energy needs

OUR CONCERNS

- Proposed cap and trade legislation will hinder economic recovery in our nation
- Thousands of West Virginians count on these jobs
- Our schools and our communities count on the tax funding provided by coal mining
- Clarification from EPA regarding valley fills/surface mine permits
- Let West Virginia do the jobs it does best – including regulation of mining. Let's work together with federal regulatory agencies, our operators and private investors to resolve potential problems
- Support carbon capture and continued development of clean coal technologies

IMPACT OF PROPOSED CAP AND TRADE LEGISLATION

Based on information in the U.S. Energy Information Administration's (EIA) report Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009 (basic case):

- H.R. 2454 will reduce West Virginia's Gross Domestic Product (GDP) by \$750 million by 2020 and over \$1.75 billion by 2030
- By the year 2030, West Virginia will lose more than 22,000 jobs – not just in mining but in health care, retail and government as well
- Investments needed to address the carbon concerns while maintaining energy supply:
 - » \$100 million by AEP for initial 1.5 percent carbon dioxide (CO₂) capture and sequestration demonstration at its Mountaineer Plant
 - » Cost for carbon capture and storage (CCS) technology could add 73 percent to current electric rates
 - » At this technology stage, CO₂ will have to be more than \$90/ton to justify CCS technology
 - » Cost of carbon abatement to U.S. Gross Domestic Product (GDP) could approach \$122 billion annually after cap and trade is adopted
 - » Increases in energy supply needed to sustain growth by 2030 include nuclear power, 38 percent; oil production, 43 percent; renewable energy, 61 percent; natural gas production, 64 percent; and coal production, 74 percent
 - » A national cap and trade system would add unnecessary volatility to the energy market, compared to the predictability of a carbon tax



REGULATORY CONCERNS

West Virginia has shared its concerns regarding EPA's lack of consultation and the intrusion on the state's regulatory authority.

- Instead of applying the state's narrative water quality standards in the state's Clean Water Act (CWA) 402 permitting process, EPA implemented its own interpretation in the federal 404 permitting process
- Although the Army Corps of Engineers has historically relied on fill minimization and cumulative hydrologic impact assessment conducted by the state in the Surface Mining Control and Reclamation Act, EPA revisited these aspects of the mine permits
- This has resulted in duplication of efforts and differing interpretations of regulations and permits, which may in turn lead to reduced investment in mining operations within the United States
- A reduction in domestic production could force utility companies to turn to foreign sources to meet coal demand by increasing dependence upon foreign sources
 - » The top countries to import coal to the United States are Venezuela, Columbia and Indonesia
 - » Environmental regulations in those countries are reportedly far less protective than those in the United States
- Therefore, in its efforts to better protect the environment and the global climate, the EPA may have the unintended effect of supporting foreign mining operations that have far less effective environmental regulations





WEST VIRGINIA'S ENERGY INITIATIVES

West Virginia is finding new and better ways to use our coal. There is a balance between coal and the environment and West Virginia is a worldwide leader in finding that balance.

Fossil Fuel Technology and Improvements

- 2009 alternative and renewable energy portfolio legislation requires 25 percent of the energy consumed in our state to come from an alternative or renewable energy source by the year 2025
- Substantial investment in new technologies is being made but we need more investment to continue this progress
- September 2009: The world's first project to both capture and store CO₂ at a coal-fired power plant began operation at American Electric Power's existing power plant in New Haven, W.Va.
- November 2009: Alstom and Dow partner to demonstrate carbon capture technology at Dow's chemical production facility in South Charleston, W.Va.
- Nation's first Reference Coal to Liquid facility in Mingo County, W.Va., is scheduled to become operational in 2013 and will be carbon-capture ready
- Passed Land Use Planning legislation to use post mine land for economic development purposes
- Working directly with Chinese government on advanced coal technologies
- Exploring and developing tremendous new natural gas resources from Marcellus Shale formation
- Charleston is the only state capital that has a vehicle hydrogen fuel station

Renewable and Alternative Energy

- Over 1,000 megawatts of wind power in service or in development
- Third-largest wind capacity of any state in the eastern United States
- Largest wind farm east of the Mississippi
- Advancing co-firing and biomass plants as part of state's energy mix
- Supplies 264 megawatts of power from hydroelectric power plants with an additional 127 megawatts in the FERC permit process. Virtually all of our hydropower resources are being used

Managing Our Carbon Footprint

- 18 percent of West Virginia's CO₂ emissions sequestered naturally through the state's extensive forests
- Passed legislation adopting 2009 energy building codes
- Statewide mapping of carbon sequestration opportunities under way within the state
- Over 1,000 megawatts of renewable energy projects in West Virginia contribute to energy portfolio of PJM states