

## **Energy Outlook for West Virginia: 2008**

**I remember from my early grade school years reading the story about King Canute of Denmark who was so convinced of his power his throne was transported to the ocean's shore and he ordered the tide to cease coming in. Result was that his feet got all wet. There be something similar in the "Energy Independence and Security Act of 2007". As the King found out mandates may turn out to be all wet.**

**The legislation does cloud the picture for the energy future of West Virginia. Prior to its passage the Energy Information Administration of the U.S. Department of Energy predicted a solid future for coal over the next 30 years. Prices were predicted to dip and then recover as more coal fired plants come on line around 2020 averaging \$37 a ton.**

**Coal was to remain as the main fuel for electrical generation which was to grow at an annual rate of 1.5%. As a result total coal consumption was to spiral from 1,114 short tons in 2006 to 1,882 short tons in 2030. Adding to the demand for coal was the expansion of coal to liquids plants (CTL) which was predicted to triple output by 2030. The use of natural gas as the fuel of choice for environmental reasons was also to show growth which ultimately would be stifled by its increased price.**

**All these forecasts are now history. The new energy legislation with its mandates, goals and timetables has not been fully forecast, but EIA promises one this month. No one doubts it will impact West Virginia, but the results are not certain.**

**The two most discussed feature of the bill were: First, to increase of supply of alternative fuels by a mandatory Renewable Fuel Standard (RFS) of 36 billions of bio-fuel in 2022. The Act require the US Department of Energy and the Nation Academy of Sciences to assess its impact. Even without the assessment federal fleets are to reduce petroleum consumption by 20 percent and alternative fuel use by 10 percent within the next seven years.**

**Second, was to set a national fuel economy standard of 35 miles per gallon by 2020 which is a 40 percent increase over the current requirements. Since past fuel standards have been met by primarily by lowering the weight of vehicles and consequently their safety, the bill does mandate that the U.S. Department of Transportation is to see these reductions do not take place at the expense of safety. Grants are available and loan guarantees to automobile manufactures and suppliers. Credits for purchase of electric vehicles are to expand. By 2015, 50 percent of all new automobiles sold in the US are to use alternate fuels.**

**There are new provisions to reduce the use of lighting in federal building, set new appliance efficiency standards and "green building technology". Much of this focuses on "lighting products" with the standards to be effective within 10 years under the "Bright Lights Tomorrow" program.**

**Alternate and renewable fuels are strongly emphasized. Grants are available to research and implement renewable bio-fuel production technologies including cellulosic biomass. The USDOE is to establish research centers targeting bio-fuels. West Virginia has significant bio-fuel potential (particularly from wood scrap, residue and slash) along with a well regarded research program at WVU. In addition our State is a prime area for the growing of “switch grass” which researchers believe has great potential as the bio-fuel feedstock to replace corn based ethanol. This provision could have significant positive impact on the state.**

**Recognizing the capacity of the current electrical transmission net work is not capable of handling the increased demand, the “appropriate” federal agencies are mandated to take steps to modernize the system using “smart grid” technology. State regulatory bodies, such as West Virginia’s Public Service Commission” are required to consider investment in a smart grid system prior to allowing new transmission lines. At the same time the Secretary of Energy is to designate a “national interest” transmission corridor through any state to relieve capacity constraints. To what extent this will limit State siting authority is yet to be seen.**

**Small businesses are eligible for a wide variety of loans, grants and credits for the development of renewable energy and energy efficiency innovations. Federal agencies are to give preference to small businesses that conduct energy efficiency or renewable energy R&D projects. Considering the growth of smaller high tech firms in West Virginia, these incentives may prove beneficial if their research can qualify.**

**State government, including higher education facilities, are to implement energy efficiency and engage in innovative energy sustainability projects using grant funding. Electric and natural gas utilities operating in the State are to adopt policies establishing “cost effective energy efficiency” as a priority. States are encouraged to direct worker training programs toward renewable energy and energy efficiency workforce development programs. States are also directed to reduce or eliminate school bus idling.**

**Of particular importance to West Virginia are provisions relating to carbon capture and storage research. The US Department of Interior is to prepare a national assessment of sites with capacity for carbon dioxide sequestration and the US Department of Energy is to implement a large scale program to demonstrate alternative technologies for carbon capture. West Virginia is viewed, due to its abandoned mines, geological formations and potential use of CO<sub>2</sub> in oil and natural gas enhanced recovery programs, as a prime location for these programs. Since large scale projects usually are located near demonstration projects, this presents a significant economic development opportunity for the State.**

**Economists are trained to ask two questions: What is the cost? Who will pay? Answers to these fundamental questions were not available when the Legislation passed and are not now. Until those answers are in, it will be difficult to ascertain**

**what West Virginia's economic impact will be. But in the short run it is likely to create investment uncertainty for energy investors until details are clarified**

**While West Virginians can take heart in provisions relating to bio-fuels, coal to liquids and renewable energy, the bill omits two important areas: support of clean coal technology (other than carbon capture) and the role of wind energy. Having at least 200 years of coal and the greatest capacity for wind energy development this side of the Mississippi, inclusion of these would have been desirable.**

**In the long run this Legislation presents challenges. It substitutes government mandates for the market. It is based on "technological optimism" about what is capable of development in the near future. It is clearly designed to reduce dependence on coal as a fuel. In the long run, if successful, that could have serious consequences.**