Top Five Energy Plan Talking Points

1) The **Energy Efficiency Plan** is helpful, but needs to go further. We support strong building codes, rate decoupling, and an Energy Efficiency Resource Standard. The Plan should also include Integrated Resource Planning, and support for Combined Power and Heat facilities, as well as Distributed Generation.

2) The **Renewable Energy Plan** is biased and does not prepare West Virginia for the emerging renewable energy industries. The plan should recommend stronger support for renewables such as solar, wind, biomass and geothermal.

3) The **Fossil Fuels Plan** is hopelessly biased and needs to go back to the drawing board. It does not mention climate change, even when discussing pending rules to limit greenhouse gases.

4) We oppose coal-to-liquids facilities because of the high greenhouse gas emissions and excessive costs.

5) We oppose nuclear power because of the high costs and the dangers of radioactive waste disposal.

6) Because of our historic dependence on fossil fuels like coal and gas, the WV-DOE Energy plans need to prepare for a transition to a cleaner energy future.

Comments of the WV Sierra Club on the 2013-2017 WV State Energy Plan

**Fossil Energy Opportunities for West Virginia (Draft 8-13-2012)**

1. There is no mention of the impacts of climate change in the document, in fact, the word “climate” is never mentioned. Are the authors seriously attempting to propose a fossil energy policy for the state without even mentioning climate change? Although a “carbon emissions rule” and “greenhouse gas emissions” are mentioned, the document is devoid of any acknowledgement of why fossil fuel facilities need limits on their carbon emissions, and little direction is offered to the state or the industry on how to address climate change. An energy policy on fossil fuels that fails to address climate change leaves the state and the industry with little direction to address this critical issue. It is as if the BBER authors simply do not accept the reality of climate change, and hope that by refusing to say the words, the reality will go away. Will the WV Division of Energy actually pay taxpayers’ dollars for a report so out of touch with reality? Please tell me this is going back to the drawing board.
2. The BBER authors’ recommendation on nuclear energy appears to support repeal of the statutory ban on nuclear power plants. They state in their conclusions that “To attract nuclear power generation resources, the legislature must repeal those sections of West Virginia (code) that make those resources unobtainable.” The authors apparently do not think it is necessary to repeal basic economic facts. Nuclear power is the most expensive, complex, expensive, dangerous, and expensive method ever devised to boil water. A recent report by John Blackburn, (Professor of Economics and Chancellor of Duke University) concludes that solar power is now cheaper than nuclear energy. Any attempt to saddle West Virginia ratepayers with the costs of a nuclear power plant is nothing more than blatant corporate welfare for utilities and nuclear power companies. The authors claim to be employed as economists, but never once mention the economics of nuclear power generation. This is either deliberate deception or sheer incompetence, and I do not believe these authors are incompetent.
3. Section 2.6.4. Coal Consumption. The BBER authors use the January 2012 EIA Annual Energy Outlook, but have failed to consider the dramatic shift in energy use just in the last six months since that report was released. The June 2012 Update shows slower growth in energy consumption, and a faster transition away from coal. (<http://www.eia.gov/forecasts/aeo/pdf/0383(2012).pdf> ). Even this is overly conservative. Due to low natural gas prices, coal consumption for electricity generation has dropped precipitously, down 14.7 % in June 2012, compared to one year earlier. The market share for coal dropped to 36 % in June, and went as low as 32 % in February, (<http://www.eia.gov/electricity/monthly/> ) already well below the 38 % that EIA predicted in their Annual Energy Outlook for 2035. What this illustrates is how rapidly the market shifts when a lower-cost source of energy is available. We can realistically expect the cost of gas to go up again, but the cost of renewables keeps coming down. Wind energy is already cheaper than a new coal plant, and when the cost of solar drops below the cost of coal, the shift from coal will be rapid and permanent. In addition, the current cost does not consider the cost of greenhouse gas emissions. In their June 2012 Update, the EIA projects that the market share for coal drops to as little as 4 % by 2035 if a $25/ton cost of carbon emissions is implemented. Finally, the estimates of coal consumption ignore the expected shift from Appalachian coal to sources from the central and western US. Buried in the EIA forecast of an increase in coal consumption by 2035, is the explicit expectation that almost all of that will be in western coal, and that Appalachian coal production will decline precipitously. The BBER authors appear to have ignored all of these factors in section 2.6.4. The report should be revised to acknowledge a significant risk of a dramatic collapse in the West Virginia coal industry, perhaps in as little as five years, and should identify policy recommendations to help West Virginia cope with this dramatic shift in our economy.
4. Section 2.6.5. Renewable fuels. The BBER authors cite the EIA estimate of growth in renewable fuels of 2.8 % per year, but ignore the dramatically higher growth rates that renewables have actually experienced. Solar energy is the most rapidly growing source of electricity, and the market demand continues to expand nation-wide. Will west Virginia prepare for the energy demands of the next generation, or will we remain wedded to a dying industry as the market moves to alternatives?
5. Section 2.7. Per capita energy consumption. The BBER report uses an outdated estimate of the decline in per capita energy consumption. The most recent estimate from the EIA June 2012 Update is 0.6 % per year. Again, will West Virginia keep up, or will we surrender our economic competitiveness as other states increase their energy use efficiency. By using outdated information and faulty assumptions, the BBER authors set us up for poor policy choices that will cost us jobs.
6. Section 2.8. Energy imports. Again, the use of outdated information by the BBER authors results in faulty conclusions. For example, the authors conclude that nuclear energy will represent an increasing proportion of electricity generation, but the EIA forecast calls for the market share from nuclear to remain essentially flat through 2035. The BBER authors suggest that CO2 emissions from electricity will increase 4.9 % by 2035, while the EIA’s June 2012 updates shows lower greenhouse gas emissions for all but the most optimistic scenarios.
7. Section 3.6. Key observations. This section dramatically understates the likelihood and extent of the decline in coal production in West Virginia. The statement that “…coal to liquids industrial development should continue…” is completely unsupported by any data whatsoever. Coal-to-liquids technologies are not cost-effective, and have excessive emissions of greenhouse gases, even in comparison to petroleum fuels. The report should be revised to provide a more realistic summary for policy-makers.
8. Section 4.7 identifies various problems and issues associated with development of natural gas as a transportation fuel. It is unfortunate that the BBER authors did not undertake a similar analysis of opportunities with rechargeable electric vehicles, as the fuel cost is even lower than for gas, and use of electric vehicles avoids many of the infrastructure issues needed to implement natural gas as a transportation fuel.
9. Section 8. Short-term Development Goals 2013-2017 Fossil Energy. Several of these recommendations are incorrect, and based on incorrect, or worse, absolutely no data. For example, there is no justification for the state to promote coal-to-liquids facilities (section 8.2). Nor is there any rational justification for promoting natural gas vehicles (section 8.3), except in limited special circumstances where the fleet conversion costs are justified. The conversion of school buses from biodiesel to natural gas is a major step in the wrong direction, as it makes our school systems dependent on unsustainable uses of fossil fuels. Advocacy of retaining fossil fuel generation (section 8.5) ignores the compelling interest in avoiding climate change, an issue that this study completely ignores. And as stated above, repeal of state statutes that currently prohibit nuclear power generation (section 8.6) demonstrates a complete absence of economic analysis by the BBER authors.

**Energy Efficiency Policy Outlook for West Virginia**

1. The Energy Efficiency plan recommends adopting of strong building codes for energy efficiency, and we support that recommendation.
2. We also support efforts to allow rate decoupling to provide utilities with a financial incentive to promote energy efficiency, as well as an Energy efficiency resource standard with targeted goals for reducing energy consumption.
3. The report should go further to support Integrated Resource Planning by utilities to assure that the lowest long-term cost sources of electricity are established, while also assuring that the true cost of electricity, including the health and environmental impacts, is incorporated in utility planning decisions.
4. The report should also recommend Smart-grid technologies, combined power and heat facilities, and distributed generation, to enhance grid reliability.

**Renewable Energy Policy Outlook for West Virginia**

Unfortunately, the CBER authors of this report do not demonstrate, nor do they appear to have, any particular expertise in renewable energy technologies or economics. There is evident bias throughout the report that illustrates the authors are captives of the fossil fuel industry, with, at best, very limited knowledge of the rapidly emerging markets in renewable technologies. There does not appear to be any effort for a comprehensive life cycle analysis, or an assessment of the true costs of fuels, nor an awareness of the diverse environmental impacts and benefits associated with various energy sources.

1. The report offers the conclusion that “None of the alternative or renewable energy sources considered in this report is likely to provide fuel or electricity at a lower cost than currently is supplied by traditional resources.” Unfortunately, this conclusion appears to represent a pre-existing bias, rather than being based on an objective factual analysis. For example, wind-based electricity is already cheaper than electricity from a new coal-fired power plant. Solar and biofuels also have cost-effective applications. And much of the cost advantage for fossil fuels is actually based on long-running subsidies and structural incentives that help preserve their near-monopoly.
2. The recommendation to emphasize the electric grid ignores the need for, and advantages for, distributed generation, which gives a competitive edge to renewable sources closer to end users.
3. I support the recommendation that “Environmental concerns regarding alternative and renewable fuels should be fully addressed…”, as many life cycle costs and the full greenhouse gas emissions potential should be considered. However, this must also apply to extraction and use of fossil fuels in order to avoid creating yet another structural barrier to renewables. Environmental compliance standards for fossil fuels must be at least as stringent as those for renewables, and these must include standards for greenhouse gas emissions.
4. Development of Waste-To-Energy facilities should be done cautiously, as these often have excessive costs and significant air pollution emissions.
5. Energy from Landfill gas must also consider the significant emissions of methane and related greenhouse gases that are produced. Capture of landfill methane is notoriously inefficient, with recent studies suggesting that less than 20 % of the methane generated is captured. Given that landfill gas facilities generally manage the landfill to maximize methane production, this 80 % loss means that many landfill gas facilities actually generate more greenhouse gases than they remove. The preferred management for landfills is to secure and close the landfill as a dry cell to minimize both water leachate production and methane losses.
6. Methane from in-vessel digesters should be re-examined for application. This technology is already in application in Europe, where collectives of farms grow the biomass in the form of vegetative matter or animal manure which generates methane for power generation, home heating, and small industrial uses. Because the feedstock is more controlled than for municipal waste-to-energy plants, the air pollution emissions are better regulated.
7. The conclusions regarding solar energy completely ignore the greenhouse gas benefits achieved, as well as the benefits of encouraging development of this emerging green industry. At a minimum, the report should acknowledge the climate implications of our current fossil fuel-based energy systems. For example, utility-level subsidies for solar energy provide all ratepayers with benefits from reductions in greenhouse gas emissions. Those who adopt solar technologies, even if subsidized by other utility rate-payers, may still have to bear the costs of climate change from the greenhouse gas emissions of other ratepayers, even though the solar adopters produce no greenhouse gas emissions of their own. The report conclusions are currently presented in a very one-sided fashion and should be re-written to describe both sides of this equation.
8. Overall, these recommendations do little to help West Virginia move into America’s fastest growing energy sector. This is largely a prescription for economic stagnation, and allowing West Virginia to be left behind in the emerging energy industries of the future. We can, and must, do better.
9. Figure 12 is already seriously outdated. As described in the recent article by US Energy Secretary Steven Chu, the levelized cost of electricity for solar in 2012 is already below the lower limit projected for 2016 (Nature 488:294-303. Available at: <http://www.nature.com/nature/journal/v488/n7411/full/nature11475.html> ). This illustrates how rapidly the cost of solar energy is coming down. In fact, Emanuel Sachs (MIT) projects that as economies of scale help lower the cost of production, the levelized cost of electricity from solar will drop below that of coal-fired electricity before 2020. West Virginia needs an energy policy that prepares for the day when customers will abandon utilities with large centralized coal-fired power plants because solar is cheaper. As illustrated in Figure 11 of the CBER report, West Virginia is already falling behind our surrounding states in installed solar capacity. The recommendations of the CBER report to do nothing more than to maintain current state policies will lock us into that uncompetitive last-place position.