

July 12, 2010

MEMORANDUM FOR: The Honorable Robert McDonnell, Governor  
The Honorable Bill Bolling, Lieutenant Governor  
Commonwealth of Virginia

SUBJECT: Federal and State Tax Breaks and Subsidies for Wind Energy

**Introduction:**

Both of you have made statements indicating that you favor greater use of wind energy in Virginia and you have used our tax dollars<sup>i</sup> to promote wind energy. However, if you consider objectively the true costs and benefits of electricity from wind, you will conclude that greater use of wind energy is NOT in the best interests of Virginia's taxpayers or electric customers.

Recently, I have sent you several emails demonstrating that:

- Electricity from wind is very high in true cost and very low in true value.
- The wind industry and other wind energy advocates greatly overstate its benefits and understate its adverse environmental, economic, energy, scenic, and property value impacts.
- Claims of job and economic benefits from "wind farms" are greatly exaggerated.
- *"Wind farms" are being built primarily for lucrative tax benefits and subsidies for their owners – not because of their environmental or energy benefits.*

This email elaborates on the last point, above, because it is apparent that many in the public, media, and government do not yet understand:

- The extent and cost of existing federal and state tax breaks and subsidies for wind energy.
- The cost of tax breaks and subsidies are a part of the full, true cost of electricity from wind.
- When *all* the true costs are counted, the cost of electricity from wind far exceeds the cost of electricity from existing generating plants powered by traditional energy sources.
- Wind energy is unlikely to ever become a commercially viable way to generate electricity except for users who are beyond the reach of electric distribution lines or those few people who are willing to either (i) install expensive battery storage systems, or (ii) have electricity only when the wind blows.
- Tax breaks and subsidies for wind energy are:
  - Transferring wealth – millions of dollars annually -- from ordinary taxpayers and electric customers to "wind farm" owners and their financiers.
  - Distorting capital investment decisions, with billions of dollars being spent on "wind farms" that produce very little electricity -- which electricity is low in value because it is intermittent, volatile, unreliable and most likely to be produced when least needed.<sup>ii</sup>
  - Adding to federal and state budget deficits.

## **Background**

When initially proposed, the rationale for providing tax breaks and subsidies for wind energy was to help a relatively new technology for producing electricity compete with established electric generating technologies until advances in technology would permit wind to compete without subsidies.

*However, the tax breaks and subsidies for wind energy have grown and grown. The massive tax breaks and subsidies now available and the wind industry's well-financed lobbying efforts to preserve, expand, and extend them makes clear that there is no longer any serious expectation that electricity from wind will become commercially viable without massive subsidies or that significant advances in wind technology are likely to ever permit wind to become a competitive source of electricity.*

## **Understanding who benefits from generous tax breaks and subsidies for wind energy**

Political leaders who are serious about holding down energy costs and protecting the interests of taxpayers need to understand:

- The high true cost and low true value of electricity from wind farms.
- How extraordinarily generous the federal and state governments are to “wind farm” owners, developers, and financiers.
- How ordinary taxpayers and electric customers end up bearing the tax burden and costs escaped by these firms.

“Wind farm” developers and owners that are benefiting from the tax breaks and subsidies include such US firms as Dominion Resources, FPL Group (parent of NextEra), Duke Energy, AES, Invenergy, and Noble Environmental (JPMorgan Partners), and foreign-owned firms such as Iberdrola (Spain), Horizon (Energias de Portugal, S.A. of Portugal), E.On (Germany), Shell (Netherlands), and BP (UK).

But they are not the only ones benefiting handsomely from the wind energy tax shelters. *Financial firms with large profits they wish to shelter from taxation*<sup>iii</sup> have also realized that they can take advantage of the massive federal and state tax breaks and subsidies for wind and other “renewable” energy sources that provide opportunities for them to receive large returns with little or no risk.<sup>iv</sup>

The lucrative tax breaks and subsidies for “wind farm” owners and financiers equip them to hire lobbyists, make generous with campaign contributions, and influence members of Congress and state legislatures, governors and regulators to extend and expand these huge benefits.

## **Existing Federal and Virginia Tax Breaks and Subsidies for “wind farms”**

The share of the economic value of a “wind farm” to its owners that is accounted for by tax breaks and subsidies varies quite widely among “wind farms” depending on factors such as the total capital cost, financing, production, operating costs, useful life of the turbines, and income from sale of electricity and, in some cases, “green energy credits.” One wind industry executive reported at an American Bar Association conference that just two of the federal incentives (see A and B, below) accounted for 2/3 of the economic value of a “wind farm”<sup>v</sup>

Tax breaks and subsidies now available include – but are not limited to -- the following:

- A. **Accelerated Depreciation – Federal and State.** Perhaps the least recognized and understood federal AND Virginia tax break available to “wind farm” owners is *Five-Year Double Declining Balance Accelerated Depreciation* (often referred to as “5-year 200% DB”). It is a generous “Modified Accelerated Cost Recovery System” (MACRS) method for calculating the share of “wind farm” capital cost that can be deducted each year from otherwise taxable corporate income.<sup>vi</sup>

Five-year 200% DB Accelerated depreciation has two huge benefits for “wind farm” owners and their “tax partners” that are not enjoyed by owners of traditional generating facilities that have much longer and slower tax depreciation periods (generally 20 years):

- *Cash Flow:* It provides large amounts of interest free cash that can be used for other purposes. In the first six tax years, the entire capital cost of the project, including equity and debt, can be deducted from otherwise taxable income.
- *Reduced corporate income tax:* It immediately reduces the owners’ and their financial/tax partners’ income subject to Federal and Virginia corporate income tax.

The following example illustrates the benefits, if the project had capital costs of \$100,000,000, which is the approximate cost of a 50 megawatt (MW) “wind farm”

The following table shows the depreciation deductions, by tax year, and the impact on a corporation’s tax liability for a relatively small \$100,000,000 “wind farm.”

<b>Tax Shelter &amp; Cash Flow Benefits: 5-Year 200% Declining Balance Depreciation for a \$100 million “wind farm”</b>				
Tax Year	Deduction from Otherwise Taxable Income		Reduction in Corporate Tax Liability	
	% of Capital Investment (both equity & debt)	Amount	Federal Tax Avoided ( 35% tax rate)	Virginia Tax Avoided (6% tax rate)
1 <sup>st</sup>	20%	\$20,000,000	\$ 7,000,000	\$1,200,000
2 <sup>nd</sup>	32%	\$32,000,000	\$11,200,000	\$1,920,000
3 <sup>rd</sup>	19.2%	\$19,200,000	\$ 6,720,000	\$1,152,000
4 <sup>th</sup>	11.52%	\$11,520,000	\$ 4,032,000	\$ 691,200
5 <sup>th</sup>	11.52%	\$11,520,000	\$ 4,032,000	\$ 691,200
6 <sup>th</sup>	5.76%	\$ 5,760,000	\$ 2,016,000	\$ 345,000
Total	100%	\$100,000,000	\$35,000,000	\$6,000,000

Note that the deductions from otherwise taxable income and from tax liability could be taken regardless of whether the \$100 million “wind farm” investment is financed with debt or equity.<sup>vii</sup>

Virginia provides the accelerated depreciation tax break shown above because Virginia corporations begin their tax calculations using their federal taxable income shown on their federal return,<sup>viii</sup> a number that reflects the effects of 5-year 200% DB accelerated depreciation.

Note that the exceedingly generous accelerated depreciation permits a “wind farm” owner to “recover” cash equal to or exceeding its equity investments (perhaps 30% of total capital cost) in as little as 12 to 18 months from the time a “wind farm” goes into operation.

Clearly, an organization must have a large amount of taxable income to take advantage of this tax break, which explains much of the attraction of “wind farms” to such organizations as Dominion

Resources, FPL Group, Duke Energy, BP, Shell, Iberdrola and others that have large profits from electric utility or oil production operations.

“Wind farm” owners that do not have enough taxable income to take advantage of the tax breaks can and do find readily available “tax equity partners” among the financial firms on Wall Street that are eager to shelter their profits from federal corporate income tax (See Endnote iii for a list of the firms that lobby to preserve, extend and expand tax breaks for wind and other “renewables.”)

Unfortunately, tax breaks and subsidies created for special interests by politicians in Washington and State capitals offer such compelling opportunities for great returns with little or no risk that they divert both human talent and capital from innovative and productive activities in the private sector that could result in products and services that would be far more cost effective, beneficial, and capable of competing in the private competitive economy.

- B. **Federal Production Tax Credit (PTC).** “Wind farm” owners are currently eligible to receive \$0.021 per kilowatt-hour (kWh) of electricity produced during the 1<sup>st</sup> 10 years of operation. The PTC provided \$0.015 per kWh when instituted in 1992 but has been increased with inflation to the current level of \$0.021 per kWh.

A 50 MW “wind farm,” such as that used above to illustrate the benefits of accelerated depreciation, operating at an average capacity factor<sup>ix</sup> of 35% would generate 153,300,000 kWh per year. The owner would receive a PTC of \$3,219,300 per year or \$32,193,000 over 10 years.

The lucrative Production Tax Credit (PTC) is a direct deduction, dollar for dollar, from the “wind farm” owner’s “bottom line” tax liability.

- C. **Investment Tax Credit (ITC) or Cash Grant in lieu of PTC.** The American Recovery and Reinvestment Act of 2009, often referred to as the “stimulus” bill, was originally estimated as costing taxpayers \$787 billion and is now estimated to cost in excess of \$860 billion. The bill was justified on grounds that it would create jobs in the US and “stimulate” the US economy.

That legislation, now widely regarded as hugely wasteful, among its many provisions, allowed taxpayers eligible for the federal wind production tax credit (PTC) to take either one of the following two generous alternatives *in lieu of* the PTC; either:

1. **Investment Tax Credit (ITC).** The “stimulus” legislation permits “wind farm” owners to choose an investment tax credit (i.e., a direct deduction from taxes otherwise due) equal to 30% of capital costs in lieu of the Production Tax Credit. If the “wind farm” owner does not have sufficient tax liability to use all of the ITC deduction, unused amounts can be carried forward and deducted in future years. This tax break is available for projects placed in service during 2009 and 2010 or where construction has started by 2010 and placed in service before the end of 2012.

The newly authorized ITC has substantial benefits for “wind farm” owners compared to the PTC because (i) the benefit is available immediately rather than over a 10-year period and (ii) the benefit is based on capital cost and, therefore, is available regardless of the amount of electricity produced by the “wind farm.”<sup>x</sup>

2. **Cash Grant in Lieu of ITC.** The “stimulus” legislation also made “wind farm” developers eligible for the ITC to elect to receive a cash grant of equal value from the US Treasury in lieu

of the ITC. The US Departments of Treasury and Energy awarded grants for “wind” projects totaling about \$2.8 billion.<sup>xi</sup>

Creating jobs was, allegedly, a key reason for the “stimulus” legislation but most of “wind farm” projects covered by grants awarded by Treasury and DOE were for (a) projects that were already completed, nearly completed or already fully committed to by the grant recipients, (b) were equipped with turbines manufactured primarily in other countries, and (c) were owned by foreign-based companies.<sup>xii</sup> In any case, “wind farms” result in very few new jobs.

**D. Additional subsidies for electric utilities and costs for Virginia electric customers provided by 2007 legislation.**

Despite the huge federal and state tax breaks and subsidies already in place (Sections A and B, above), the General Assembly of Virginia, in April 2007, approved a bill that is highly favorable to Dominion Virginia Power and other electric utilities *but costly for Virginia’s electric customers.*

Among its many provisions were several promoting the use of wind and other “renewable” energy while enhancing Dominion and other utilities profitability, and assuring that all costs and a higher return for the utilities would be passed along to electric customers. Among these provisions were:

1. Establishing goals for sharply increased use of electricity generated from wind and other renewables. (Such goals create an artificial, high price market for electricity from wind and/or “green energy” certificates – all for the benefit of owners of wind farms.)
2. Mandating that customers be provided an opportunity, while paying a premium price, to have up to 100% of the electricity they use come (at least in theory) from wind or other renewable energy sources.
3. Assuring full cost recovery and a higher rate of return (up to 200 basis points) on investments by Dominion Power and other utilities in facilities to produce electricity from wind and other “renewable” sources.
4. Limit the authority of the State Corporation Commission to question costs and returns demanded from customers by electric utilities.

**E. Additional US Department of Energy (DOE) Subsidies.** The DOE provides several additional subsidies to the wind industry, all financed with tax dollars, including:

1. From \$60 to \$100 million per year for “wind energy R&D” contracts and grants.
2. Additional millions in taxpayer dollars for “studies,” “analyses,” “reports,” and other wind energy promotional information prepared by or for DOE’s Office of Energy Efficiency and Renewable Energy (DOE-EERE), DOE’s National Energy “Laboratories,”<sup>xiii</sup> state energy offices, and other DOE contractors and grantees.

While the National “laboratories” undoubtedly perform some objective work that is based on scientific methods and engineering principles, much of the information issued by these organizations that deals with wind energy is demonstrably biased, misleading, and even false. These “laboratory” activities are more akin to those carried out by trade associations that typically provide one-sided information used to influence the public, media and government officials.<sup>xiv</sup>

3. More taxpayer dollars flowing through DOE and NREL to support various state government wind promotional activities and to state “wind working groups,”<sup>xv</sup> consisting of wind industry representatives and other wind energy advocates (but seldom, if ever, include representatives from citizen groups opposed to “wind farms”) that work in support of wind industry objectives.
4. DOE, using authority provided in the now infamous \$787 billion to \$860+ billion “stimulus” legislation, has awarded \$2.3 billion in tax credits for organizations that wish to engage in renewable energy manufacturing activities, with most of the credits relating to wind energy.

### **US Energy Information Administration (EIA) Comparison of Tax Breaks and Subsidies for Various Energy Sources**

The wind industry often claims that other energy sources receive substantially more tax breaks and subsidies than wind energy. However, an April 2008 report by the US Energy Information Administration (EIA) “Federal Financial Interventions and Subsidies in Energy Markets 2007,” demonstrates that, on a kilowatt-hour of production basis, wind and solar energy, receive higher tax breaks and subsidies than any of the traditional energy sources.<sup>xvi</sup>

It should be noted that this analysis from EIA:

- Did not take into account the substantial tax break for wind energy provided by five-year double declining balance accelerated depreciation described earlier.
- Did not include state tax breaks and subsidies.
- Was prepared before the federal government provided billions in direct cash grants and other subsidies for “wind farm” owners from the \$787 billion to \$860+ billion “stimulus” legislation.

### **Harmful wealth transfers and misdirected capital investments.**

Unfortunately, federal and state government elected and appointed officials seem either not to recognize what they have done or not to care that federal and state wind energy policies, tax breaks and subsidies for the wind industry are having significant adverse economic impacts by:

- *Transferring hundreds of millions of dollars annually from the pockets of ordinary taxpayers and electric customers to a few large corporations that own “wind farms” and their “tax equity partners.”*
- *Misdirecting billions of capital investment dollars to energy projects (“wind farms”) that produce very little electricity – which electricity is low in quality and real value. Electricity from wind turbines is intermittent, volatile, and unreliable. The electricity is low in real value because it is most likely to be produced at night in colder months, not on hot weekday late afternoons in July and August when electricity demand is highest. Further, because wind turbines are so unreliable, they cannot substitute for *reliable* generating capacity required in areas experiencing growth in peak electricity demand or needing to replace old generating units.*

Absent the huge tax breaks and subsidies for “wind farms,” billions in capital investment dollars could be available for more productive purposes including loans to businesses – large and small – that are finding it difficult to borrow money to finance expansion and job creation in the private, competitive economy.

## **The preceding points are focused on financial cost and value, not externalities.**

The foregoing discussion has not dealt with external costs, commonly referred to as externalities; i.e., the costs not reflected in the price charged for the electricity.

A discussion of externalities associated with each source of energy used to produce electricity is beyond the scope of this paper. However, it should be noted that wind energy advocates generally assign high externality values to other sources of energy while assigning none for wind energy. In fact, producing electricity with wind energy does impose external costs, including adverse impacts on environmental, ecological, scenic, and property values.

Examples of adverse environmental and ecological impacts include noise, dead birds and bats, destruction of vegetation and disruption of ecosystems and wildlife habitat, and nuisance impacts such as shadow flicker. Claims that “wind farms” do not adversely affect neighbors’ property values simply are not true.

## **Conclusion**

Because of the false and misleading claims that have been spread widely by the wind industry and other wind energy advocates, it is quite understandable that the public, media, and government officials have been misled. However, it is now time – especially for political leaders – to:

- Learn the facts about wind energy,
- Give far greater attention to the interests of taxpayers and electric customers.
- Stop the unwarranted wealth transfers and misdirection of capital investments resulting from the massive federal and state tax breaks and subsidies for wind energy.
- Resist the lobbyists who are advocating the continuation and expansion of these measures.

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## Endnotes:

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<sup>i</sup> Recently, \$800,000 to James Madison University, where staff participate in wind industry lobbying activities.

<sup>ii</sup> Wind turbines are most likely to produce electricity at night in colder months, with little or none produced on hot weekday late afternoons in July and August when electricity demand reaches peak levels.

<sup>iii</sup> ACORE (American Council on Renewable Energy) is a Washington DC based lobbying group representing organizations seeking tax breaks and subsidies for “renewable” energy. A recent ACORE press release announced that some 20 high-powered, Washington-connected subsidy pursuing financial firms have created a new Washington-based lobbying organization, *US Partnership for Renewable Energy Finance*, US PREF, to push for the extension and expansion of “renewable” energy tax breaks and subsidies. Firms listed as members of US PREF include Bank of America, Merrill Lynch, Citi, Credit Suisse, Deutsche Bank, GE Energy Financial Services, Google, Green Order, Hudson Clean Energy Partners, Madison Dearborn Partners, Morgan Stanley, NRG Energy, Skadden Arps, SolarCity, Starwood Energy, Troutman Sanders LLP, US Renewables Group, and VantagePoint Venture Partners.

<sup>iv</sup> <http://frontpagemag.com/2010/05/06/the-wind-farm-scam/>

<sup>v</sup> <http://www.abanet.org/envirom/committees/renewableenergy/teleconarchives/121504/feoppt.pdf>

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<sup>vi</sup> IRS Publication 946.

<sup>vii</sup> The Congress, in the Economic Stimulus Act of 2008, added a 50% 1<sup>st</sup> year “bonus” deduction for 2008 investments. The effect of this additional “bonus” would permit “wind farm” owners to deduct 60% in the 1<sup>st</sup>, 16% in the 2<sup>nd</sup>, 9.6% in the 3<sup>rd</sup>, 5.76% in the 4<sup>th</sup> and 5<sup>th</sup> and 2.88% in the 6<sup>th</sup> tax years. This “bonus” was extended to cover 2009.

<sup>viii</sup> See Virginia Corporation Income Tax Return, Form 500, page 2, line 1.

<sup>ix</sup> The annual “capacity factor” of a generating unit is calculated by dividing the number of kWh of electricity generated by the unit by the rated capacity of the unit times the hours in a year. If the illustrative 50 MW (50,000 kW) “wind farm” generated 153,300,000 kWh of electricity in a year, it would have a capacity factor of 35%; that is, 153,300,000 kWh divided by 50,000 kW rated capacity x 8760 hours in a year.

<sup>x</sup> Separating the tax break from actual electricity production, in effect, reduces the owner’s incentive to maintain turbines and other “wind farm” equipment so as to maximize production.

<sup>xi</sup> Choma, Russ, American University, Investigative Reporting workshop; May 26, 2010;

<http://investigativereportingworkshop.org/investigations/wind-energy-funds-going-overseas/story/renewable-energy-stimulus-grants/>

<sup>xii</sup> Choma, Russ, American University, Investigative Reporting workshop; February 8, 2010;

<http://investigativereportingworkshop.org/investigations/wind-energy-funds-going-overseas/story/renewable-energy-money-still-going-abroad/>

<sup>xiii</sup> Particularly the National Renewable Energy “Laboratory” (NREL) and the Lawrence Berkeley National “Laboratory” (LBNL)

<sup>xiv</sup> Examples include NREL’s “Jobs and Economic Development Impact” (JEDI) model that overstates local and state benefits from “wind farms”, and LBNL’s recent report that claims, falsely, that “wind farms” do not adversely affect the values of nearby properties.

<sup>xv</sup> [http://www.windpoweringamerica.gov/state\\_activities.asp](http://www.windpoweringamerica.gov/state_activities.asp)

<sup>xvi</sup> See: <http://www.eia.doe.gov/oiaf/servicrpt/subsidy2/pdf/chap5.pdf>, Table 35, page 106.