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## SO MUCH UP IN THE AIR: THE CARBON DIOXIDE DEBATE AND COAL PLANT PERMITTING IN VIRGINIA

SAM ROBINSON\*

In *Appalachian Voices v. State Air Pollution Control Board*,<sup>1</sup> the Circuit Court of the City of Richmond weighed in on an extremely hotly-contested issue when it rejected the claim that carbon dioxide (“CO<sub>2</sub>”) is a regulated pollutant under the Clean Air Act (“CAA”), and that therefore any new coal-fired energy plants in Virginia must use the Best Available Control Technology (“BACT”) to capture CO<sub>2</sub>.<sup>2</sup> Ruling against the petitioners, a coalition of environmental groups, the court held that carbon dioxide is not subject to regulation under the CAA.<sup>3</sup> This decision cleared the way for construction to continue on the 585 megawatts (“MW”) “Virginia City Hybrid Energy Center” (“VCHEC”) in Wise County, Virginia. As of this writing, the VCHEC is roughly two-thirds complete<sup>4</sup> and on schedule to begin producing electricity commercially in the summer of 2012.<sup>5</sup>

Other state courts around the country have similarly rejected the claim that CO<sub>2</sub> is a regulated pollutant under the CAA,<sup>6</sup> and recently the Environmental Protection Agency (“EPA”) confirmed.<sup>7</sup> Although the Supreme Court in *Massachusetts v. EPA* pushed the EPA to create a regulatory framework with regard to motor vehicles in 2007,<sup>8</sup> the EPA

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<sup>1</sup> *Appalachian Voices v. State Air Pollution Control Bd.*, No. 08-3530 (Va. Cir. Ct. Aug. 10, 2009).

<sup>2</sup> *Id.* at 2.

<sup>3</sup> *Id.*

<sup>4</sup> *Virginia City Hybrid Energy Center*, DOMINION RESOURCES, INC., <http://www.dom.com/about/stations/fossil/virginia-city-hybrid-energy-center.jsp> (last visited Oct. 12, 2010).

<sup>5</sup> *Id.*

<sup>6</sup> See, e.g., *Utah Chptr. of the Sierra Club v. Air Quality Bd.*, 226 P.3d 719, 730 (Utah 2009) (“To date, carbon dioxide is not governed by the [NAAQS], the new source performance standards, or the ozone protection standards.”).

<sup>7</sup> See U.S. ENVTL. PROT. AGENCY, FINAL RULE: PREVENTION OF SIGNIFICANT DETERIORATION AND TITLE V GREEN HOUSE GAS TAILORING RULE: FACT SHEET 1–5 (2010), available at <http://www.epa.gov/nsr/documents/20100413fs.pdf> (providing a timeline for future regulation of greenhouse gases under the CAA).

<sup>8</sup> 549 U.S. 497, 500 (2007).

has only recently begun to release regulations.<sup>9</sup> Many believe these rules are merely a means to prod Congress to act, potentially delaying regulation further as various statutory options are debated.<sup>10</sup> Despite being widely regarded as a leading cause of global warming,<sup>11</sup> emission of CO<sub>2</sub> from coal-powered energy plants is almost entirely unregulated in the United States.<sup>12</sup> This is bound to change, and the result of regulation will likely be to raise, possibly substantially, the cost of producing electricity from coal.<sup>13</sup>

Despite the uncertainty over the future of CO<sub>2</sub> emissions regulation, Virginia continues to stake its energy future on the most carbon-intensive fuel available.<sup>14</sup> As of this writing, Virginia was in the process

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<sup>9</sup> See Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 18,886 (April 24, 2009) (to be codified at 40 C.F.R. ch. 1) [hereinafter Endangerment Finding].

<sup>10</sup> See Jack M. Beermann, *The Turn Toward Congress in Administrative Law*, 89 B.U. L. REV. 727, 732 (2009) ("By rejecting the executive branch's arguments for deference to administrative policy, and by relying on its understanding of congressional intent, the Court placed responsibility for global warming policy on Congress."). The Obama administration has also turned up the pressure on Congress to act. See John M. Broder, *Greenhouse Gases Imperil Health, E.P.A. Announces*, N.Y. TIMES, Dec. 8, 2009, at A18 ("The administration has used the [endangerment] finding as a prod to Congress, saying that if lawmakers do not act to control greenhouse gas pollution it will use its rule-making power to do so. At the same time, the [P]resident and his top environmental aides have said that they prefer such a major step be taken through the legislative process.").

<sup>11</sup> See 549 U.S. at 497, 505, 521, 533 (noting that "[t]he harms associated with climate change are serious and well recognized.") The Court went on to question whether the EPA "has abdicated its responsibility under the [CAA] to regulate the emissions of four greenhouse gases, including carbon dioxide." *Id.* at 521. After reviewing the science of global warming, the Court found that the EPA had indeed "refused to comply with [the CAA's] clear statutory command." *Id.* at 533.

<sup>12</sup> Patrick Parenteau, *Lead, Follow, or Get Out of the Way: The States Tackle Climate Change with Little Help from Washington*, 40 CONN. L. REV. 1453, 1455-56 (2008).

<sup>13</sup> ABT ASSOCIATES INC., ASSESSING THE ECONOMIC IMPACT OF DOMINION VIRGINIA POWER'S COAL-FIRED POWER PLANT IN WISE COUNTY, VIRGINIA, COMPARED TO INVESTMENTS IN ENERGY EFFICIENCY ES-2 (2009) [hereinafter ASSESSING THE IMPACT], available at [http://wiseenergyforvirginia.org/downloads/Executive%20Summary\\_Wise%20County%20Coal%20Plant\\_01-06-09.pdf](http://wiseenergyforvirginia.org/downloads/Executive%20Summary_Wise%20County%20Coal%20Plant_01-06-09.pdf) (analyzing the cost of electricity under various carbon taxation models and concluding that carbon regulation will likely raise consumer electric rates).

<sup>14</sup> See MASS. INST. TECH., THE FUTURE OF COAL: OPTIONS FOR A CARBON-CONSTRAINED WORLD 5 (2007) (noting the United States' dependence on coal to produce electricity); Parenteau, *supra* note 12, at 1456. See also Amy C. Christian, *Designing a Carbon Tax: The Introduction of the Carbon-Burned Tax (CBT)*, 10 UCLA J. ENVTL. L. & POL'Y 221, 232 (1992) (noting that "[p]er unit of energy produced, burning coal emits seventy-five percent more carbon dioxide than burning natural gas and twenty-two percent more than burning oil.").

of building or permitting massive new coal-fired energy plants in Wise and Surry Counties.<sup>15</sup> More are likely to follow.<sup>16</sup>

These multi-billion dollar plants and the electricity they produce will ultimately be purchased by the citizens of Virginia.<sup>17</sup> As an energy-market regulating state, Virginia's legislature has given the State Corporation Commission ("SCC") a significant role in ensuring that consumers are protected from unnecessarily high utility rates.<sup>18</sup> Virginia must play a part in the effort to control carbon dioxide emissions, if not for altruistic reasons related to climate change, then for the more practical reason that national standards are likely to raise the cost of producing electricity from coal and the state should not lock itself in to these higher rates.<sup>19</sup> Simply put, permitting new coal-powered energy plants is shortsighted given the instability in the carbon regulatory regime and the added costs which will likely accompany eventual regulation.<sup>20</sup>

This note will develop the case against permitting new coal-powered plants in four parts. Part I will examine Virginia's energy mix and needs, focusing special attention on the fight over VCHEC to provide a local context for the larger debate. Part II will discuss efforts at the federal level to regulate CO<sub>2</sub> emissions. This section will include descriptions of the major types of regulation that have been proposed, focusing particular emphasis on the cap-and-trade bill passed in the House and recently proposed in similar form in the Senate. Part III will look at the ways other states have responded to the lack of leadership in Washington. The most prevalent of these efforts are so-called renewable portfolio standards ("RPS") which are currently in force in twenty-nine states.<sup>21</sup> The concluding section will pull together the themes developed in the paper to explain why continuing to expand the percentage of Virginia's energy portfolio provided by coal-powered plants without meaningful efforts to encourage renewables and energy efficiency is misguided, both for consumers and as a matter of environmental policy. Instead, the Commonwealth

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<sup>15</sup> Editorial, *Power Play*, RICHMOND TIMES DISPATCH, May 22, 2009, at A12 (in addition to discussing the two plants, the article notes that "vocal opposition" has accompanied plans for new electricity generation facilities).

<sup>16</sup> *See id.*

<sup>17</sup> *See* ASSESSING THE IMPACT, *supra* note 13, at ES-2.

<sup>18</sup> VA. CODE ANN. § 56-581 (2009).

<sup>19</sup> *See* ASSESSING THE IMPACT, *supra* note 13, at ES-2.

<sup>20</sup> *See id.* at ES-1 to ES-2.

<sup>21</sup> *See RPS Policies*, DSIRE: DATABASE OF STATE INCENTIVES FOR RENEWABLES & EFFICIENCY, <http://www.dsireusa.org/summarymaps/index.cfm?ee=1&RE=1> (follow the RPS Policies Hyperlink) (last visited Oct. 12, 2010).

should pursue conservation, efficiency gains, and diversification to secure an affordable and more sustainable energy future.

## I. COAL AND VIRGINIA'S ENERGY NEEDS

Virginia's electricity is provided by two types of producers: electric companies<sup>22</sup> and electric cooperatives.<sup>23</sup> In 2007, these producers generated a total of roughly 78.3 million kilowatt-hours of electricity<sup>24</sup> from a mix of sources made up primarily of coal (44.3%), nuclear (34.1%) and natural gas (13.6%), as well as smaller amounts of renewable sources such as hydroelectric, biomass and wind (total of 5.4%).<sup>25</sup> Virginia also imports a considerable amount of electricity from neighboring states; in recent years imported electricity has accounted for nearly a third of all electricity used.<sup>26</sup> In fact, Virginia is second only to California in electricity imports.<sup>27</sup> As the population of Virginia grows over the next decade, demand for electricity is expected to increase by some 4000 MW—enough to power more than a million homes and businesses.<sup>28</sup>

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<sup>22</sup> See *Electricity in Virginia*, VIRGINIA PLACES, <http://www.virginiaplaces.org/energy/electricity.html> (last visited Oct. 12, 2010) (explaining the structure of electricity provision in Virginia). Examples of private companies include: American Electric Power, Old Dominion Power, and Dominion Resources (operating under various names including Virginia Electric & Power Co.). *Electric Companies Regulated by the SCC*, VA. STATE CORP. COMM'N, [http://www.scc.virginia.gov/pue/electreg\\_cos.aspx](http://www.scc.virginia.gov/pue/electreg_cos.aspx) (last visited Oct. 12, 2010). See also *Dominion: 100 Years Going Strong*, DOMINION RESOURCES, INC., <http://www.dom.com/about/anniversary.jsp> (last visited Oct. 12, 2010). All these entities will be referred to throughout this note as Dominion.

<sup>23</sup> There are thirteen electric cooperatives serving Virginia. See VA. STATE CORP. COMM'N, *supra* note 22.

<sup>24</sup> ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, DOE/EIA 0348(01)/2, STATE ELECTRICITY PROFILES 2007, 313 tbl.A.1(2010) [hereinafter STATE ELECTRICITY PROFILES 2007], available at [http://tonto.eia.doe.gov/ftproot/electricity/stateprofiles/07st\\_profiles/062907.pdf](http://tonto.eia.doe.gov/ftproot/electricity/stateprofiles/07st_profiles/062907.pdf).

<sup>25</sup> See *Virginia Electric Energy Net Generation 2007*, VA. CTR. FOR COAL & ENERGY RESEARCH, [http://www.energy.vt.edu/vept/electric/netgeneration\\_year.asp?yr=2007](http://www.energy.vt.edu/vept/electric/netgeneration_year.asp?yr=2007) (last visited Oct. 12, 2010); *Virginia Renewables*, VA. CTR. FOR COAL & ENERGY RESEARCH, <http://www.energy.vt.edu/vept/renewables/index.asp> (last visited October 12, 2010).

<sup>26</sup> See VA. COAL & ENERGY COMM'N, ANNUAL EXECUTIVE SUMMARY OF THE VIRGINIA COAL AND ENERGY COMMISSION (2008), available at <http://leg2.state.va.us/DLS/h&sdocs.nsf/5c7ff392dd0ce64d85256ec400674ecb/53e5b42f6bb4cd908525726c00534512?OpenDocument> (noting that electricity imports made up 29.4% of 2008 usage).

<sup>27</sup> See STATE ELECTRICITY PROFILES 2007, *supra* note 24, at 313–14. In 2007, California's net retail electricity sales exceeded net generation by a little over 50,000 MWh. Virginia's sales exceeded supply by roughly 33,000 MWh. *Id.*

<sup>28</sup> DOMINION RESOURCES, INC., 2008 SUMMARY ANNUAL REPORT 20 (2008), available at <http://www.dom.com/investors/annual2008/domannual.pdf>.

Virginia's electricity producers operate in a regulated market that has been in considerable flux over the last ten years. In 1999, the Virginia legislature joined a trend then sweeping the nation and substantially deregulated its electricity markets.<sup>29</sup> Prior to 1999, Virginia maintained a regulated market in which consumers had little choice of energy provider.<sup>30</sup> The theory behind deregulation, in Virginia and elsewhere, was that by allowing market forces to run their course, competition by new energy providers would force the entrenched utilities to offer lower prices and the consumer would benefit.<sup>31</sup> Deregulation took effect January 1, 2001, allowing customers a choice of electricity provider and imposing rate caps to allow adjustment to the new regime.<sup>32</sup> After an initial flurry of interest by companies seeking to sell electricity in Virginia,<sup>33</sup> it quickly became apparent that rate caps designed to protect consumers from rapid increases in electricity prices were too low to encourage new electricity suppliers to enter the market.<sup>34</sup> Other states experienced similar problems: across the country states that had deregulated their energy markets grappled with dramatically higher consumer electricity prices as the promise of increased competition proved hollow and fuel costs rose.<sup>35</sup> When new producers failed to enter the market in Virginia,<sup>36</sup> the

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<sup>29</sup> See Maryann Haggerty, *It's No 'Off' Switch: That's Deregulation With a Small 'De'*, WASH. POST, Oct. 17, 1999, at H6; Terence O'Hara & Amit R. Paley, *Electricity Deregulation: High Cost, Unmet Promises*, WASH. POST, March 12, 2006, at A01 (noting that in the late 1990's nearly half of all states, including Maryland and Virginia, undertook some form of deregulation).

<sup>30</sup> See Del Jones, *States Take Varied Routes to Energy Deregulation*, USA TODAY (Feb. 1, 2001, 6:21 AM), <http://www.usatoday.com/money/consumer/2001-02-01-states.htm> (noting that two years after deregulation legislation was enacted, still only five percent of customers in Virginia were eligible to choose their energy provider).

<sup>31</sup> See David B. Spence, *The Politics of Electricity Restructuring: Theory vs. Practice*, 40 WAKE FOREST L. REV. 417, 446–47 (2005).

<sup>32</sup> See VA. CODE ANN. § 56-582 (2009). The legislature was so optimistic about the potential for competition that the law allowed utilities to petition for rate cap termination early, in 2004, in areas where “effectively competitive market[s]” had developed. See *id.*

<sup>33</sup> Greg Edwards, *Deregulation Starts Jan. 1: Electricity Competition Picture Still is Unclear*, RICHMOND TIMES DISPATCH, Dec. 16, 2001, at A1 (noting that “about two dozen power-plant projects, representing several thousand megawatts of electricity, have been announced in Virginia by companies other than those associated with Virginia utilities”).

<sup>34</sup> Peter Behr, *Region's Electric Rates Kept in Check—for Now: Rate Caps Slow Hoped-For Competition*, WASH. POST, Feb. 12, 2001, at A1. See also Peter Behr, *Electricity Bills Likely to Jump When Price Caps Expire*, WASH. POST, Mar. 5, 2004, at E1.

<sup>35</sup> See Terence O'Hara & Amit R. Paley, *Electricity Deregulation: High Cost, Unmet Promises; Competition a 'Myth' as Prices Spiral Upward*, WASH. POST, Mar. 12, 2006, at A1.

<sup>36</sup> *Id.* (noting that of Virginia's 3.2 million electric customers, only 1450 had switched to

legislature was forced to face the reality that, without action, when rate caps expired the state energy market would be deregulated, and consumer rates would be determined by the few utilities with monopoly shares of the electricity market.<sup>37</sup> In response to this dilemma, the legislature first extended rate caps through 2010, and then moved to re-regulate the market.<sup>38</sup>

New regulations passed in 2007<sup>39</sup> have once again committed most Virginians to the “incumbent” utility in their area<sup>40</sup> and restored the role of the state in determining “fair rates of return on common equity . . . consistent with the public interest.”<sup>41</sup> The SCC is empowered to determine the rate of return an electricity-producing utility may earn on equity, also known as the “rate base.”<sup>42</sup> While this might seem onerous, the new regulations built in generous benefits for the major utilities, particularly for Dominion Energy which had lobbied intensely for the bill.<sup>43</sup> These benefits include significant incentives for new construction,<sup>44</sup> various “Performance Incentives,”<sup>45</sup> as well as guaranteed return on equity not less than the average performance of similar utilities.<sup>46</sup>

The new regulations also include measures intended to spur investment in renewable energy production.<sup>47</sup> The voluntary RPS enacted

a new provider, and those who did actually switched to a more expensive, environmentally friendly supplier).

<sup>37</sup> See Behr, *Electricity Bills Likely to Jump When Price Caps Expire*, *supra* note 34.

<sup>38</sup> See *id.*

<sup>39</sup> 2007 Va. Acts Ch. 2405–07 (codified as amended in VA. CODE ANN. §§ 56–576 *et seq.*).

<sup>40</sup> VA. CODE ANN. § 56-577(A)(3) (2009).

<sup>41</sup> *Id.* § 56-585.1.

<sup>42</sup> *Id.* § 56-576 *et. seq.*; *Electric Rates in Virginia*, VA. STATE CORP. COMM'N (2010), available at <http://www.scc.virginia.gov/comm/howerates.pdf>.

<sup>43</sup> See Amy Gardner & Michael D. Shear, *State Passes Overhaul Backed by Dominion: Critics Say Measure Will Bring Higher Rates*, WASH. POST, Feb. 23, 2007, at B5; Rebecca Smith, *Incentives for Utility stir Debate—Dominion Resources Wins Generous Terms as Virginia Ends Open Power Market*, WALL ST. J., Feb. 26, 2007, at A14.

<sup>44</sup> VA. CODE ANN. § 56-585.1(A)(6) (2009). “A utility that constructs [specified generation plants and unit modification] shall have the right to recover the costs of the facility . . . plus, as an incentive to undertake such projects, an enhanced rate of return on common equity.” *Id.* These incentives amount to a two percent additional return on the mandated base rate depending on the type of plan. Smith, *supra* note 43 (noting that with these added “boosts,” utilities could see returns on equity of around fourteen percent).

<sup>45</sup> VA. CODE ANN. § 56-585.1(A)(2)(c) (2009). These incentives are apparently at the discretion of the Commission and relate to “generating plant performance, customer service, and operating efficiency.” *Id.*

<sup>46</sup> VA. CODE ANN. § 56-585.1(A) (2009). If on the other hand, the combined return on equity exceeds the average, the Commission is empowered to lower the rates or allow the utility to keep forty percent of the excess and return the rest to customers. See *id.*

<sup>47</sup> See VA. CODE ANN. § 56-585.2 (2009).

by the legislature offers utilities who wish to participate further performance incentives for the sale of electricity produced from renewable sources.<sup>48</sup> Virginia's RPS is discussed in greater detail in Part III, and it is only necessary to note here that the voluntary RPS is so toothless and riddled with exceptions and loopholes that utilities may well qualify for its performance incentives through 2015 and beyond without developing *any* new sources of renewable energy.<sup>49</sup>

Despite the generous give-aways, Virginia's re-regulation represents a return to the paradigm which has ruled electricity markets across the country since the early days of the electricity industry.<sup>50</sup> Given the inherent volatility of electricity markets, which are typified by inelastic but unpredictable demand as well as characteristics, especially in the production process, of natural monopoly,<sup>51</sup> many questioned whether deregulation of this sector was wise.<sup>52</sup> The disastrous experience of deregulating states such as California and Maryland, among others, demonstrates the dangers associated with deregulated electricity markets.<sup>53</sup>

Virginia has returned to the so-called "traditional rate formula" which balances consumer expectations and the profitability of the utilities in the form of cost-of-service rate-making.<sup>54</sup> In essence, this form of state oversight creates a partnership between the people of Virginia and

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<sup>48</sup> *Id.*

<sup>49</sup> See Justin W. Curtis, *My Two Cents Per Kilowatt-Hour: Virginia's Renewable Energy Portfolio Standard*, 42 U. RICH. L. REV. 755, 779 (2008) (arguing that loopholes in the RPS lower the percentage of electricity produced from renewables in order to qualify for the Performance Incentive from 4% to 2.3%). Given that Virginia already produces in excess of three percent of its electricity from hydroelectric plants and other existing renewable sources, many utilities may already qualify for the incentives without any new production. See *id.* Dominion Energy, for example, has no concrete plans to develop substantial new renewable resources and, hydroelectric generation aside, attains the RPS goal by purchasing existing renewable energy credits. See VIRGINIA ELECTRIC AND POWER COMPANY, ANNUAL REPORT TO THE STATE CORPORATION COMMISSION ON RENEWABLE ENERGY, IN ACCORDANCE WITH § 56-585.2.H OF THE CODE OF VIRGINIA 8 (2009), available at [http://www.dom.com/about/stations/renewable/pdf/renewable\\_energy\\_report\\_103009.pdf](http://www.dom.com/about/stations/renewable/pdf/renewable_energy_report_103009.pdf).

<sup>50</sup> See Spence, *supra* note 31, at 421.

<sup>51</sup> John E. Kwoka, Jr., *Twenty Five Years of Deregulation: Lessons for Electric Power*, 33 LOY. U. CHI. L.J. 885, 886 (2002).

<sup>52</sup> *Id.*

<sup>53</sup> See Richard J. Pierce, Jr., *How Will the California Debacle Affect Energy Deregulation*, 54 ADMIN. L. REV. 389, 389-90 (2002); Thomas A. Firey, *Fixing Maryland's Electricity Problem*, CATO INST. (Jun. 23, 2006), [http://www.cato.org/pub\\_display.php?pub\\_id=6443](http://www.cato.org/pub_display.php?pub_id=6443).

<sup>54</sup> See Sidney A. Shapiro & Joseph P. Tomain, *Rethinking Reform of Electricity Markets*, 40 WAKE FOREST L. REV. 497, 508 (2005); Gardner & Shear, *supra* note 43, at B5; STATE CORP. COMM'N, *supra* note 42.

the utilities that serve them. The balance in this partnership is mediated by the SCC, which is charged with allowing utilities a “‘fair’ rate of return (profit) on their ‘rate base.’”<sup>55</sup> The SCC is involved in every major decision made by the utilities regarding rate changes, new projects and alterations to existing facilities.<sup>56</sup> This regulatory scheme has served Virginia’s customers well: the cost of electricity to consumers is relatively low. Virginians pay an average of just 9.62¢ per kilowatt hour as compared to a national average of 11.26¢.<sup>57</sup>

#### A. *New Plants to Meet New Demand*

It is in this regulatory environment that Virginia utilities have been planning how they will respond to increased demand over the coming years.<sup>58</sup> A series of new coal-fired generation plants have been proposed.<sup>59</sup> Virginia currently has two plants in development, Dominion’s 585 MW “Virginia City Hybrid Energy Center” in Wise County, and the 1500 MW

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<sup>55</sup> VA. STATE CORP. COMM’N, *supra* note 42.

<sup>56</sup> See VA. CODE ANN. § 56-585.1 (2009). “Nothing in this section shall preclude the Commission from determining, during any proceeding authorized or required by this section, the reasonableness or prudence of any cost incurred or projected to be incurred, by a utility in connection with the subject of the proceeding.” *Id.* § 56-585.1(D).

<sup>57</sup> ENERGY INFO. ADMIN, U.S. DEP’T OF ENERGY, DOE/EIA-0348(2008), ELECTRIC POWER ANNUAL 2008 69 fig.7.5 (2010), *available at* [www.eia.doe.gov/cneaf/electricity/epa/epa.pdf](http://www.eia.doe.gov/cneaf/electricity/epa/epa.pdf). Virginia also compares favorably to several states in the region: Maryland for example pays an average of 13.84¢ per kilowatt hour while North Carolina pays 9.52¢. *Id.* West Virginia and Kentucky both pay less, however, at 7.06¢ and 7.94¢ respectively. *Id.*

<sup>58</sup> Increased demand in the next decade alone is very difficult to model, leading to widely varying estimates of growth depending on the model used. Nationwide, electricity demand is expected to grow roughly one percent per year through 2030. ENERGY INFO. ADMIN., U.S. DEP’T OF ENERGY, DOE/EIA-0383(2009), ANNUAL ENERGY OUTLOOK 2009, 71 (2009). Virginia’s Energy Plan for 2007 suggested that by 2016, without significant shifts in consumption, peak demand would jump nearly twenty-three percent above 2005 levels. See DEP’T OF MINES, MINERALS AND ENERGY, THE VIRGINIA ENERGY PLAN 40 (2007), *available at* [http://www.dmme.virginia.gov/DE/VAEnergyPlan/2007VEP-Full .pdf](http://www.dmme.virginia.gov/DE/VAEnergyPlan/2007VEP-Full.pdf). An oft-repeated claim is that electricity demand grew by forty percent between 1997 and 2007. See David A. Fahrenthold, *Increasing Greenhouse Emissions Decried*, WASH. POST, Apr. 13, 2007, at B1; Sandhya Somashekhar, *Dominion Virginia has Inflated Power Needs, Some Experts Say; Opponents’ Advisors Push Alternatives to High-Voltage Lines*, WASH. POST, Jan. 28, 2007, at C3. However, according to the Energy Information Administration, during this period, total revenues rose forty-eight percent. See STATE ELECTRICITY PROFILES 2007, *supra* note 24, at 281 tbl.8.

<sup>59</sup> See *Proposed Coal Plants in Virginia*, SOURCEWATCH, [http://www.sourcewatch.org/index.php?title=Category:Proposed\\_coal\\_plants\\_in\\_Virginia](http://www.sourcewatch.org/index.php?title=Category:Proposed_coal_plants_in_Virginia) (last modified Sept. 11, 2008) (listing recent proposed plants in Wise, Surry, and Sussex Counties).

Cypress Creek Power Station in Surry County proposed by Old Dominion Electric Cooperative.<sup>60</sup> Both have faced substantial opposition from various groups, which claim that environmental costs are prohibitively high.<sup>61</sup> The Surry plant, which if completed as proposed would be the largest coal-fired plant in the state,<sup>62</sup> has been delayed. VCHEC, however, appears to have cleared regulatory hurdles and legal challenges, which will allow it to complete construction and begin operation.<sup>63</sup>

The fight over VCHEC presents an interesting case study, because it offers a view into the complicated world of electric plant permitting in Virginia, as well as the vastly more complicated world of air quality regulation at the national level.

## B. *The Virginia City Hybrid Energy Center*

### 1. Legislative Background

Groundwork for the construction of new plants in Southwestern Virginia was laid by the Virginia legislature in the form of two bills. In 2004, the legislature amended the Virginia Electric Utility Restructuring Act by adding a new subsection, section 56-585(G) of the Virginia Code, designed to promote construction by allowing utilities to recover the costs of construction of new facilities “plus a fair rate of return.”<sup>64</sup> Dominion was apparently not satisfied that the SCC definition of fairness would match its own, and lobbied vigorously for a heightened rate of return.<sup>65</sup> The SCC

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<sup>60</sup> See *Dominion Seeks Approval for Va. Coal Power Plant*, REUTERS, July 17, 2007, available at <http://www.reuters.com/article/idUSN1721333920070717>; *Tiny Virginia Town Approves Giant Coal-Fired Power Plant*, ENVTL. NEWS SERV. (Feb. 2, 2010), <http://www.ens-newswire.com/ens/feb2010/2010-02-02-092.html>.

<sup>61</sup> See *Dominion’s Wise Co. Coal-fired Power Plant Violates Federal law, Clean Energy Advocates Tell Court*, S. ENVTL. L. CTR. (July 31, 2009), [http://www.southernenvironment.org/newsroom/press\\_releases/2009\\_07\\_31\\_court\\_hears\\_wise\\_county\\_caa\\_arguments](http://www.southernenvironment.org/newsroom/press_releases/2009_07_31_court_hears_wise_county_caa_arguments); *Tiny Virginia Town Approves Giant Coal-Fired Power Plant*, *supra* note 60.

<sup>62</sup> Rex Springston, *Should a Coal-Fired Power Plant be Built in Surry?; No: It’s Bad for the Environment*, RICHMOND TIMES DISPATCH, May 17, 2009, at A8.

<sup>63</sup> See Linda McNatt, *Company Delays Planned Surry County Coal Plant*, THE VIRGINIAN-PILOT (Sept. 9, 2010), <http://hamptonroads.com/2010/09/company-delays-planned-surry-county-coal-plant>; DOMINION RESOURCES, INC., *supra* note 4.

<sup>64</sup> 2004 Va. Acts 1268, 1274 (codified as amended at VA. CODE ANN. § 56-585 (1999)) (repealed 2007). The amendment also instructed the SCC to “liberally construe the provisions of this title” when deciding whether to approve construction. *Id.*

<sup>65</sup> See, e.g., Va. Elec. & Power Co., No. PUE-2007-00066 (Va. State Corp. Comm’n July 13, 2007) (application for approval, certification, and rate adjustment) [hereinafter VCHEC

responded that it could not determine a fair rate of return based on the incomplete application information before it.<sup>66</sup> In order to clarify how much of a give-away Dominion would receive, the legislature passed a second piece of legislation in 2007, repealing section 56-585(G).<sup>67</sup> The new legislation specified that companies constructing new “[c]arbon capture compatible, clean-coal powered” plants “that utilize Virginia coal and [are] located in the coalfield region of the Commonwealth”<sup>68</sup> would receive a two percent increase in return on equity for the first ten to twenty years of the life of the plant.<sup>69</sup>

## 2. State Corporations Commission Process

Three months after this new incentive program was signed into law, on July 13, 2007, Dominion submitted an application to the SCC for permits to build a \$1.62 billion plant in Wise County.<sup>70</sup> Under Virginia law, the SCC may “determine the reasonableness or prudence”<sup>71</sup> of expenditures for new energy facilities and approve such facilities where “public convenience and necessity require the exercise of such right or privilege.”<sup>72</sup> Dominion’s application described the proposed plant as a “‘carbon capture compatible, clean-coal powered’ 585 MW (nominal) coal-fueled generating plant.”<sup>73</sup> The plant will employ two circulating fluidized bed<sup>74</sup> (“CFB”)

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Application] (Direct Testimony of E. Paul Hilton).

<sup>66</sup> Va. Electric and Power Co., No. PUE-2006-00075 (Va. State Corp. Comm’n Nov. 1, 2006) (final order).

<sup>67</sup> 2007 Va. Acts 2402, 2402.

<sup>68</sup> 2007 Va. Acts 2402, 2415–16 (codified as amended in VA. CODE ANN. § 56-585, *et seq.* (2007)). “To ensure a reliable and adequate supply of electricity . . . a utility may at any time . . . petition the Commission for approval of a rate adjustment clause for recovery on a timely and current basis from customers of the costs of . . . a coal-fueled generation facility that utilizes Virginia coal and is located in the coalfield region of the Commonwealth . . . . A utility that constructs any such facility shall have the right to recover the costs of the facility . . . plus, as an incentive to undertake such projects, an enhanced rate of return on common equity . . . .” *Id.* § 56-585.1(A)(6).

<sup>69</sup> *See* Smith, *supra* note 43.

<sup>70</sup> *See* VCHEC Application, *supra* note 65, at 1.

<sup>71</sup> VA. CODE ANN. § 56-585.1(D) (2010).

<sup>72</sup> *Id.* § 56-265.2.

<sup>73</sup> VCHEC Application, *supra* note 65, at 4.

<sup>74</sup> The CFB boilers which will power the plant operate by suspending solid fuels on jets of injected air during the combustion process. *See* U.S. DEPT OF ENERGY, THE JEA LARGE-SCALE CFB COMBUSTION DEMONSTRATION PROJECT 14 (2003), *available at* <http://www.netl.doe.gov/technologies/coalpower/cctc/topicalreports/pdfs/topical22.pdf>. These advanced boilers offer numerous advantages over traditional boilers, including increased combustion

boilers to power its generator and will also be equipped with a variety of filters and scrubbers to reduce air pollutants.<sup>75</sup> Although the plant was designed to accommodate the installation of carbon capture technology in the future,<sup>76</sup> presumably meaning that some amount of space has been left for anticipated equipment, the application noted that “no such carbon capture technology is currently [commercially] available.”<sup>77</sup>

In addition to requesting approval to construct the plant, Dominion simultaneously applied for permission to receive the return on equity incentive provided for in section 56-585.1.<sup>78</sup> The application requested a return on equity of 13.75% for funds used to build the VCHEC.<sup>79</sup>

The SCC began review of the application, and an initial public hearing was scheduled for January 8, 2008.<sup>80</sup> In the meantime, significant opposition to the plant was building among environmental groups.<sup>81</sup> A number of them, including the Southern Environmental Law Center, the Sierra Club, and Appalachian Voices joined in challenging the application before the SCC.<sup>82</sup> The SCC received over 700 public comments on the application, with the vast majority requesting that it be denied.<sup>83</sup> At the hearing, which ultimately had to be extended to four days,<sup>84</sup> the SCC commissioners heard testimony from 121 public witnesses, most of whom

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efficiency, reduced nitrogen oxide (NO<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>) emissions and flexibility of fuel choice. *Id.* According to the application, VCHEC will take advantage of the last of these advantages by burning a mixture of different fuels including primarily “run-of-mine” coal, but also waste coal and biomass (wood waste). See VCHEC Application, *supra* note 65, at 5.

<sup>75</sup> VCHEC Application, *supra* note 65, at 5 (these pollutants include sulfur dioxide, nitrogen oxide, particulate matter, and mercury).

<sup>76</sup> *Id.* at 4.

<sup>77</sup> *Id.* See also VCHEC Application, *supra* note 65, at 6 (Direct Testimony of James K. Martin).

<sup>78</sup> VCHEC Application, *supra* note 65, at 4.

<sup>79</sup> *Id.* This requested rate of return was made up of Dominion’s claimed general rate of return for equity: 11.75%, and the two percent construction incentives discussed above. *Id.*

<sup>80</sup> See Va. Elec. & Power Co., No. PUE-2007-00066 (Va. State Corp. Comm’n Mar. 31, 2008) (Final Order) [hereinafter Final Order].

<sup>81</sup> See Tim Craig, *Kaine Irks Environmentalists by Supporting Coal-Burning Plant*, WASH. POST., Mar. 30, 2008, at C1. See also *Protesters at St. Paul’s Dominion Power Plant Charged with Misdemeanors*, KINGSPORT TIMES-NEWS (Sept. 15, 2008), <http://www.timesnews.net/article.php?id=9008142>.

<sup>82</sup> See, e.g., Letter from Caleb A. Jaffee, counsel to the S. Envtl. Law Ctr., to the Honorable Joel H. Peck, Clerk to the Va. State Corp. Comm’n (Sept. 10, 2007) (on file with author); see also Final Order, *supra* note 80 (noting that eight parties had filed notices of participation in the case).

<sup>83</sup> See Final Order, *supra* note 80, at 2.

<sup>84</sup> *Id.*

also urged against approval of the application.<sup>85</sup> A month after the hearing, Dominion, along with the Office of the Attorney General and the Staff of the SCC filed a “Proposed Stipulation and Recommendation” urging approval of the application.<sup>86</sup> The motion reflected negotiations conducted among these parties and recommended, in addition to approval, a compromise general rate of return on common equity of 11.12% as well as an additional one percent return pursuant to section 56-585.1(A)(6) of the Virginia Code<sup>87</sup> for utilizing clean coal technology,<sup>88</sup> which will apply for the first twelve years of the plant’s service life.<sup>89</sup> The motion also noted that it was unresolved whether VCHEC would be compatible with carbon capture but that if the SCC later determined that the plant was compatible, another one percent return on equity increase would be granted.<sup>90</sup> Groups opposing VCHEC filed post-hearing briefs responding to the Proposed Stipulation and Recommendation, claiming that section 56-585.1(A)(6) of the Virginia Code violated the Commerce Clause,<sup>91</sup> and that new coal plants were against the public interest.<sup>92</sup> These claims were rejected by the SCC in light of the Virginia legislature’s clear intent that new plants be constructed.<sup>93</sup>

The SCC formally approved the Joint Motion and Proposed Stipulation and Recommendation on March 31, 2008.<sup>94</sup> The Final Order also noted that while section 56-580(D) of the Virginia Code instructed the SCC to “give consideration to the effect of the facility . . . on the environment and establish such conditions as may be desirable or necessary to minimize adverse environmental impact,”<sup>95</sup> the legislation did not require a “particular level of environmental benefit, or an absence of environmental

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<sup>85</sup> *Id.* See, e.g., Memorandum from Madria Barnes, Energy Division, Va. State Corp. Comm’n, to the Document Control Ctr. (Dec. 6, 2007) (Comment of Christa R. Watters) (on file with the author).

<sup>86</sup> See Joint Motion and Proposed Stipulation and Recommendation, No. PUE-2007-00066 (Va. State Corp. Comm’n Mar. 4, 2008).

<sup>87</sup> *Id.*; VA. CODE ANN. § 56-585.1(A)(6) (Supp. 2010).

<sup>88</sup> Joint Motion, *supra* note 86, at 2.

<sup>89</sup> *Id.*

<sup>90</sup> *Id.* at 3.

<sup>91</sup> Memorandum of Law of Southern Environmental Law Center, et al., in Opposition to the Application of Va. Electric and Power Co., No. PUE-2007-00066 3 (Va. State Corp. Comm’n Mar. 14, 2008). See also U.S. CONST. art. 1, § 8, cl. 3.

<sup>92</sup> See S. ENVTL. LAW CENT., *supra* note 61, at 11.

<sup>93</sup> See Final Order, *supra* note 80, at 3; VA. CODE ANN. § 56-585.1(A)(6) (Supp. 2010) (“The construction of any [coal-fired generation] facility described in clause (i) is in the public interest, and in determining whether to approve such facility, the Commission shall liberally construe the provisions of this title.”).

<sup>94</sup> See Final Order, *supra* note 80, at 26.

<sup>95</sup> *Id.* at 22.

harm, as a precondition to approval.”<sup>96</sup> Without clear rules to apply, the SCC required only that Dominion “acquire all environmental and other approvals and permits necessary to construct and to operate the proposed Coal Plant,” a requirement redundant by its very language.<sup>97</sup>

The coalition of environmental groups appealed the ruling of the SCC to the Virginia Supreme Court, again claiming that allowing a heightened rate of recovery for a “coal-fueled generation facility that utilizes Virginia coal”<sup>98</sup> violates the Commerce Clause of the United States Constitution.<sup>99</sup> The Court rejected this claim, noting that “nothing in the Virginia statute requires the use of Virginia coal. What is required is the technology to be able to burn coal found in Virginia. Consequently, the phrase ‘utilizes Virginia coal’ is descriptive and not prescriptive in content.”<sup>100</sup> While this interpretation renders the legislative language nearly meaningless because *any* coal-powered plant would be able to use at least some of the coal mined in Virginia, this redundancy is more likely the fault of the legislature for passing a meaningless political statement, not the fault of the Court for creating an imaginative interpretation. In either case the Court held that the “descriptive” language did not violate the Commerce Clause and that the plant need only be *capable* of utilizing Virginia coal.<sup>101</sup>

### 3. Environmental Permits

Even as its application was being considered by the SCC, Dominion had been at work collecting fifteen environmental impact permits required for the project to proceed and ensuring compliance with a thick and overlapping maze of statutory guidelines.<sup>102</sup> In order to be built, VCHC would need permits governing water quality, subaqueous land management,

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<sup>96</sup> *Id.*

<sup>97</sup> *Id.* at 23.

<sup>98</sup> See *Appalachian Voices v. State Corp. Comm’n*, 675 S.E.2d 458, 459 (Va. 2009); VA. CODE ANN. § 56-585.1(A)(6) (Supp. 2010).

<sup>99</sup> *Appalachian Voices*, 675 S.E.2d at 459, 463. The groups also claimed that Dominion’s application had been prematurely filed, and that the Commission erred as a matter of law in failing to conduct an independent review of whether the plan would be in the public interest. *Id.* at 460. The Supreme Court quickly dismissed these claims as predicated on a successful challenge to the statute under the Commerce Clause. *Id.* at 463.

<sup>100</sup> *Id.* at 462.

<sup>101</sup> *Id.*

<sup>102</sup> See Comments of the Department of Environmental Quality Concerning the Virginia Electric and Power Company, No. PUE-2007-00066 4–6 (Nov. 30, 2007).

erosion and sediment control, storm-water management, solid and hazardous waste management, and of course, air quality.<sup>103</sup> These permits are controlled by various federal, state, and local agencies under statutory guidance ranging from the Virginia Waste Management Act<sup>104</sup> to the federal CAA, the subject of this note.<sup>105</sup>

#### 4. The Clean Air Act

The CAA “instructs [the] EPA to do the impossible: to set standards strict enough to clean the air.”<sup>106</sup> The CAA requires the EPA to ignore economic considerations in setting air quality standards.<sup>107</sup> The CAA demands that the EPA pursue goals so high that, as experience has shown, they are effectively beyond the capability of the EPA to implement or enforce.<sup>108</sup> The CAA has been described as “aspirational,”<sup>109</sup> a symbolic piece of legislation designed by Congress to “place a ‘thumb on the scale’ in favor of more forceful air pollution control.”<sup>110</sup>

The CAA assigns states a primary role<sup>111</sup> in assuring air quality within their borders by creating and enforcing individualized State Implementation Plans (“SIP”) which meet or exceed National Ambient Air Quality Standards (“NAAQS”) set by the EPA.<sup>112</sup> The EPA is directed by the CAA to create a list of pollutants which “cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare.”<sup>113</sup> This endangerment finding sets in motion a series of

<sup>103</sup> *See id.*

<sup>104</sup> VA. CODE ANN. §§ 10.1-1400 *et. seq.* (Supp. 2010).

<sup>105</sup> Clean Air Act, 42 U.S.C. §§ 7401–671 (2000).

<sup>106</sup> Christopher T. Giovinazzo, *Defending Overstatement: The Symbolic Clean Air Act and Carbon Dioxide*, 30 HARV. ENVTL. L. REV. 99, 99 (2006).

<sup>107</sup> *See, e.g.,* Whitman v. American Trucking Ass'ns, 531 U.S. 457, 464 (2001).

<sup>108</sup> Giovinazzo, *supra* note 106, at 99 (noting that “[i]n the more than thirty-five years since the CAA was enacted, [the] EPA, the states, and regulated parties have failed repeatedly to meet . . . mandates on time and as written.”).

<sup>109</sup> *Id.*

<sup>110</sup> *Id.* at 100.

<sup>111</sup> *See* John P. Dwyer, *The Practice of Federalism under the Clean Air Act*, 54 MD. L. REV. 1183, 1191–92 (1995) for more information on the distribution of environmental regulatory power between the states and the federal government.

<sup>112</sup> Clean Air Act, 42 U.S.C. § 7410(a)(1) (2000). States are required to submit a plan containing “enforceable emissions limitations and other control measures, means, or techniques . . . as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the [air quality] requirements of this [Act].” *Id.* § 7410(a)(2)(A).

<sup>113</sup> *Id.* § 7407.

regulations under the CAA.<sup>114</sup> Once it has been determined that a pollutant endangers public health or welfare, states must adopt a series of measures to monitor and reduce emissions.<sup>115</sup> To date, the EPA has listed six common pollutants, called “criteria pollutants” on this list.<sup>116</sup> Another 187 hazardous air pollutants must be controlled to the maximum degree achievable.<sup>117</sup>

In areas that are currently meeting the target NAAQS, states must ensure Prevention of Serious Deterioration (“PSD”) through the implementation of BACT, defined as “an emission limitation based on the maximum degree of reduction of *each pollutant subject to regulation* under this Act.”<sup>118</sup> Section 111 of the CAA requires the EPA to adopt nationally uniform “new source performance standards” that must be applied by the states in determining whether to permit new sources of air pollution.<sup>119</sup> Amendments, added in 1990, establish comprehensive guidelines for state permit programs regulating stationary sources of air pollution such as energy generation plants.<sup>120</sup>

All PSD programs require that new major stationary sources of air pollution undergo “new source review” to ensure that BACT for the criteria pollutants is utilized.<sup>121</sup> This review is conducted using a five-step “top-down method,” which requires the applicant to adopt the most stringent control technology, unless it can show that the technology is not achievable.<sup>122</sup>

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<sup>114</sup> Lisa Heinzerling, *Massachusetts v. EPA*, 22 J. ENVTL. L. & LITIG. 301, 309 (2007).

<sup>115</sup> See Requirements for Preparation, Adoption and Submittal of Implementation Plans, 40 C.F.R. § 51 (2010) for information about what states must include in their SIPs, and how they are to be submitted; see also *infra* note 116 and associated text.

<sup>116</sup> See *What are the Six Common Air Pollutants?*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/air/urbanair> (last updated July 1, 2010). The six criteria pollutants are carbon monoxide (CO), lead (Pb), nitrogen oxides (NO<sub>x</sub>), ozone (O<sub>3</sub>), particulate matter (PM), and sulfur dioxide (SO<sub>2</sub>). *Id.* States must report whether they are in compliance with the standards set, and the CAA contains very specific requirements and timelines for areas shown not to be meeting the NAAQS goals. *Id.*

<sup>117</sup> Clean Air Act, 42 U.S.C. § 7412 (2000). See also *The Clean Air Act Amendments of 1990 List of Hazardous Air Pollutants*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/ttn/atw/orig189.html> (last updated Nov. 12, 2008).

<sup>118</sup> Clean Air Act, 42 U.S.C. § 7479(3) (2006) (emphasis added); see also U.S. ENVTL. PROT. AGENCY, NEW SOURCE REVIEW WORKSHOP MANUAL: PREVENTION OF SIGNIFICANT DETERIORATION AND NONATTAINMENT AREA PERMITTING B.1 (1990) (draft), <http://www.epa.gov/ttn/nsr/gen/wkshpman.pdf> [hereinafter NEW SOURCE REVIEW WORKSHOP MANUAL].

<sup>119</sup> Clean Air Act, 42 U.S.C. §§ 7411(b)(1)(A), 7411(c)(1), 7411(f) (2006).

<sup>120</sup> *Id.* § 7661.

<sup>121</sup> See NEW SOURCE REVIEW WORKSHOP MANUAL, *supra* note 118.

<sup>122</sup> *Id.* at B.5 to B.9. Beginning with step one, the top-down method requires the applicant

## 5. Virginia's State Implementation Plan

Virginia's SIP is administered by an Air Pollution Control Board ("SAPCB") endowed with wide discretion in developing regulations.<sup>123</sup> Three basic types of emission control strategies are undertaken in the state SIP: "stationary source control measures, which limit emissions primarily from commercial/industrial facilities and operations . . . [m]obile source control measures which limit tailpipe and other emissions primarily from motor vehicles . . . [and] transportation control measures, which limit the location and use of motor vehicles . . . ."<sup>124</sup> Regulations promulgated by the SAPCB are contained in the Virginia Administrative Code at Title 9.<sup>125</sup> The NAAQS for example are incorporated into the Code at Title 9, Chapter 30.<sup>126</sup>

As required by the CAA, the Administrative Code mandates that BACT be applied in new major stationary sources of emissions for "each regulated NSR pollutant."<sup>127</sup>

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to identify all available control technology options for the proposed facility for each regulated pollutant. *Id.* at B.5. Under the BACT definition, these technologies include "production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques." 42 U.S.C. § 7479 (2006). Under step two, the reviewer eliminates technically infeasible options. See NEW SOURCE REVIEW WORKSHOP MANUAL, *supra* note 118, at B.7. This requires a documented demonstration that technical difficulties, such as physical, chemical or engineering principles, would prevent successful use of the control technology at the proposed facility. *Id.* Step three involves a ranking of the control technologies by effectiveness. *Id.* at B.7. In step four, the reviewer analyzes the economic, environmental, and energy impacts, both beneficial and adverse. *Id.* at B.8. If the reviewer proves the top technology to be inappropriate for the facility, that technology is eliminated, and the next most stringent technology is similarly evaluated. *Id.* at B.8. to B.9. This process continues until a technology cannot be eliminated based on environmental, energy, or economic impacts, and that technology is then proposed as the BACT for the pollutant and emission under review. *Id.* at B.9. Finally, in step five, the most effective emission control option not rejected in step four is selected as the BACT. *Id.*

<sup>123</sup> See *The State Implementation Plan*, VA. DEP'T OF ENVTL. QUALITY (Dec. 7, 2009), <http://www.deq.virginia.gov/air/planning/sips.html>. The Board is governed by VA. CODE ANN. §§ 10.1300-1328 (2009).

<sup>124</sup> VA. DEP'T OF ENVTL. QUALITY, *supra* note 123.

<sup>125</sup> 9 VA. ADMIN. CODE § 5-5-10 *et seq.* (2010).

<sup>126</sup> *Id.* §§ 5-30-10 to 5-30-80.

<sup>127</sup> *Id.* § 5-50-280(B) ("A major stationary source shall apply best available control technology for each regulated NSR pollutant (as defined in 9 VA. ADMIN. CODE § 5-80-1615) that it would have the potential to emit in significant amounts."). These pollutants are defined by the Code as, "[a]ny pollutant for which an ambient air quality standard has been promulgated and any constituents or precursors for such pollutants identified

## 6. Last Ditch Litigation

Having failed to derail VCHEC before the SCC, the conservation groups made one final attempt to block the application by appealing two permitting decisions by the SAPCB in Richmond Circuit Court.<sup>128</sup> The groups, with lawyers from the Southern Environmental Law Center, challenged the SAPCB decision on seven grounds, “three addressing the MACT permit and four addressing the PSD permit.”<sup>129</sup> Most interesting for the purposes of this note was the claim, raised by the conservation groups, that Dominion should have been required to conduct BACT analysis for CO<sub>2</sub>.<sup>130</sup> This claim is based on a dispute about whether CO<sub>2</sub> is subject to regulation under the CAA. As noted above, if CO<sub>2</sub> were a pollutant subject to regulation under the CAA, provisions of the Act requiring BACT for new sources would be automatically triggered.<sup>131</sup> The petitioner conservation groups made two claims with regard to CO<sub>2</sub>. First, they argued that as a result of the Supreme Court decision in *Massachusetts v. EPA*,<sup>132</sup> CO<sub>2</sub> is now recognized as a “pollutant” for the purposes of the CAA.<sup>133</sup> Second, the petitioner argued that CO<sub>2</sub> had been made subject to regulation under the CAA and Virginia’s SIP<sup>134</sup> because of “longstanding [since 1993] Clean Air Act regulations applicable to carbon dioxide.”<sup>135</sup> The regulations referred to came into effect as a result of the 1990 CAA Amendments and require *monitoring* of CO<sub>2</sub> emissions.<sup>136</sup> The petitioners

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by the administrator . . . [a]ny pollutant that is subject to any standard promulgated under § 111 of the federal Clean Air Act . . . [a]ny class I or II substance subject to a standard promulgated under or established by Title VI of the federal Clean Air Act; or . . . [a]ny pollutant that otherwise is subject to regulation under the federal Clean Air Act . . . .” *Id.* § 5-80-1615.

<sup>128</sup> *Appalachian Voices v. State Air Pollution Control Bd.*, No. CL08003530-00, slip op. at 2 (Va. Cir. Aug. 10, 2009).

<sup>129</sup> *Id.* The court rejected each of these claims. *Id.* at 2–4.

<sup>130</sup> Opening Brief of Petitioners at 42, *Appalachian Voices v. State Air Pollution Control Bd.*, No. CL08003530-00 (Va. Cir. Ct. Mar. 12, 2009).

<sup>131</sup> NEW SOURCE REVIEW WORKSHOP MANUAL, *supra* note 118, at B.1.

<sup>132</sup> 549 U.S. 497, 528–29 (2007). For further analysis of this decision and the Court’s view of carbon dioxide, see *infra* Part II.

<sup>133</sup> Brief of Petitioners, *supra* note 130, at 43 (noting that the Court found that “greenhouse gases fit well within the Clean Air Act’s capacious definition of ‘air pollutant’”) (quoting *Massachusetts v. Env’tl. Prot. Agency*, 549 U.S. 497, 532 (2007)).

<sup>134</sup> See VA. DEPT’ OF ENVTL. QUALITY, *supra* note 123 for the text of the Virginia SIP language under which this claim is brought.

<sup>135</sup> Brief of Petitioners, *supra* note 130, at 44 (citing *In re Deseret Power Elec. Coop.*, PSD Appeal No. 07-03, slip op. at 41 (EAB Nov. 13, 2008)).

<sup>136</sup> See 42 U.S.C. § 7651k (2006) (“Monitoring.—the [EPA] . . . shall promulgate regulations

argued that “[i]t would defy common sense to argue that this monitoring and reporting program under the CAA does not amount to ‘regulation.’”<sup>137</sup>

The claim, if accepted, would presumably have required Dominion to conduct the five-part BACT analysis detailed above. However, it is unclear what BACT for carbon dioxide would mean at this time.<sup>138</sup> The EPA is currently considering this question,<sup>139</sup> which is a thorny one as there are few proven technologies to reduce or capture CO<sub>2</sub>, and there may currently be no economically satisfactory solution to significantly reduce CO<sub>2</sub> emissions.<sup>140</sup>

City of Richmond Circuit Court Judge Margaret Poles Spencer did not accept the conservation groups’ invitation to find that carbon dioxide was subject to BACT regulation.<sup>141</sup> Instead, she agreed with the EPA position that:

[t]he term “subject to regulation” refers to pollutants subject to actual emission limitations. . . . No federal or state regulatory controls have been established for carbon dioxide, and therefore it was not “subject to regulation” at the time the permit was issued. In sum, there is no authority, as a matter of fact or law, for the claim that a BACT analysis, to determine compliance with an unknown limitation, was required for carbon dioxide.<sup>142</sup>

The conservation groups appealed this claim to the Court of Appeals of Virginia where it was affirmed May 25, 2010.<sup>143</sup>

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within 18 months after the enactment of the Clean Air Act Amendments of 1990 . . . to require that all affected sources subject to . . . [Title IV] . . . of the Clean Air Act . . . shall also monitor carbon dioxide emissions. . . . The regulations shall require that such data be reported to the Administrator.”)

<sup>137</sup> Brief of Petitioners, *supra* note 130, at 46.

<sup>138</sup> See Siobhan Hughes, *Emission Critical: EPA Ruling On CO<sub>2</sub> Controls Could Boost Gas*, DOW JONES FACTIVA (Feb. 11, 2010), available at <http://www.brocktoncleanenergy.com/2010/02/emission-critical-epa-ruling-on-co2-controls-could-boost-gas/>.

<sup>139</sup> See *id.*

<sup>140</sup> See Daniel Brian, Note, *Regulating Carbon Dioxide Under the Clean Air Act as a Hazardous Air Pollutant*, 33 COLUM. J. ENVTL. L. 369, 391–92 (2008).

<sup>141</sup> *Appalachian Voices v. State Air Pollution Control Bd.*, No. CL08003530-00, slip op. at 3 (Va. Cir. Aug. 10, 2009).

<sup>142</sup> *Id.*

<sup>143</sup> See *Appalachian Voices v. State Air Pollution Control Bd.*, 693 S.E.2d 295 (Va. Ct. App. 2010). The appeals court noted that “[b]ecause no provision of the CAA or Virginia law controls or limits CO[2] emissions, CO[2] is not a pollutant ‘subject to regulation.’ Therefore,

With one exception that was quickly reversed,<sup>144</sup> courts around the country hearing the “subject to regulation” claim have agreed with Judge Spencer.<sup>145</sup> The EPA, for its part, has strongly opposed the above interpretation of section 169, arguing that pollutants “subject to regulation” include only those “subject to either a provision in the Clean Air Act or regulation promulgated by the EPA under the Clean Air Act that requires actual control of emissions of that pollutant.”<sup>146</sup> The trend among these courts is clearly towards deference to this interpretation, and to the leadership of Congress and the EPA.<sup>147</sup> Until recently, neither of these bodies have been much interested in taking the lead. Although state courts have been reluctant to reach onto what they view as political turf, the Supreme Court has taken a surprisingly active role in prodding the other branches of government to regulate greenhouse gases (“GHGs”).

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CO[2] is not a ‘regulated NSR pollutant’ under the PSD permitting program, and the Board was not required to complete a BACT analysis to establish permit limits for CO[2] emissions at the time it issued the VCHC permit.” *Id.* at 301.

<sup>144</sup> *Friends of the Chattahoochee v. Longleaf Energy Assocs.*, No. 2008CV146398 (Fulton County Super. Ct. June 30, 2008), *rev’d*, 681 S.E.2d 203 (Ga. Ct. App. 2009) *cert. denied*, 2009 Ga. LEXIS 809 (Ga. 2009).

<sup>145</sup> *See, e.g.*, *Connecticut v. Am. Elec. Power Co.*, 582 F.3d 309, 376 (2d Cir. 2009) (“EPA does not currently regulate carbon dioxide under the CAA—at least not in the sense that EPA requires control of such emissions at this time.”); *In re Otter Tail Power Co.*, 2008 SD 5, ¶ 31, 744 N.W.2d 594, 603 (declining to weigh in on the impact of carbon emissions on global warming, and noting that a “resolution for this problem, critical though it is, cannot be made in the isolation of judicial proceedings”); *Utah Chapter of the Sierra Club v. Air Quality Bd.*, 29 UT 76, 226 P.3d 719, 719 (rejecting the claim that carbon dioxide was “subject to regulation” and deferring to the Air Quality Board’s decision); *In re Basin Elec. Power Coop., Dry Fork Station*, EQC Docket No. 07-2801, 2008 Wyo. ENV LEXIS 3 (Wyo. Env’tl. Quality Council Aug. 21, 2008) (declining to determine how to regulate carbon emissions without specific EPA guidance).

<sup>146</sup> *See* Memorandum from Stephen L. Johnson, Administrator, U.S. Env’tl. Prot. Agency to Regional Administrators 6 (Dec. 18, 2008) (detailing the EPA’s interpretation of regulations that determine pollutants covered by federal PSD permit program), *available at* [http://www.epa.gov/NSR/documents/psd\\_interpretive\\_memo\\_12.18.08.pdf](http://www.epa.gov/NSR/documents/psd_interpretive_memo_12.18.08.pdf).

<sup>147</sup> Despite the resistance, these claims have encountered in state courts, as typified by the Richmond City Circuit Court decision in *Appalachian Voices*, the broader principle that government agencies must consider options for reducing greenhouse gas emissions when acting in a regulatory capacity has found some support in the federal courts. *See, e.g.*, *Ctr. for Biological Diversity v. Nat’l Highway Transp. Safety Admin.*, 508 F.3d 508, 531–36 (9th Cir. 2007) (the Ninth Circuit held that a federal agency acted unlawfully by failing to assess the benefits of reducing carbon dioxide emissions when setting fuel economy standards for light trucks). For a regularly updated index of environmental law cases filed under various statutes including the CAA, see Michael B. Gerrard & J. Cullen Howe, *Climate Case Chart: Climate Change Litigation in the U.S.*, ARNOLD & PORTER LLP, <http://www.climatecasechart.com/> (last updated Sept. 12, 2010).

II. MASSACHUSETTS V. EPA<sup>148</sup>

In 2007, the Supreme Court weighed in on global warming, ruling that the EPA not only had the authority to regulate GHGs,<sup>149</sup> but, should it find that GHGs endanger public welfare, the EPA was *required* to regulate.<sup>150</sup> The petitioners, a group of states, local governments, and environmental organizations had challenged the EPA's conclusion that GHGs were not subject to the regulatory provisions of the CAA.<sup>151</sup> Petitioners further alleged that the EPA had failed to make a "serious scientific inquiry" into whether GHGs may "reasonably be anticipated to endanger public health or welfare," as required by the CAA.<sup>152</sup>

The case brought together an initially unlikely coalition: two large energy companies, Entergy and Calpine, joined the aforementioned parties in supporting regulation.<sup>153</sup> Entergy's brief is instructive for the purposes of this note; in it, the company urged regulation in order to allow energy producers a stable regulatory regime in which to plan long-term strategies.

The energy needs of the United States are expected to double over the next 50 years, and Entergy and its fellow industry members need to plan—and act—now for the strategic capital investments—viewed on a 25-year horizon—that will be necessary to meet this increased demand. Entergy seeks certainty with respect to the regulatory regime it must operate under, and does not believe that EPA's current position on CO<sub>2</sub> regulation will stand the test of time.

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<sup>148</sup> 549 U.S. 497 (2007). For an interesting insider account of this case written by the lead author of the petitioners' ultimately winning brief, see Lisa Heinzerling, *Climate Change in the Supreme Court*, 38 ENVTL. L. 1 (2008).

<sup>149</sup> *Massachusetts v. Env'tl. Prot. Agency*, 549 U.S. at 500 ("Because greenhouse gases fit well within the Clean Air Act's capacious definition of 'air pollutant,' we hold that EPA has the statutory authority to regulate . . .").

<sup>150</sup> *Id.* at 533.

<sup>151</sup> *See, e.g.*, Brief for Petitioners at 8–11, *Massachusetts v. Env'tl. Prot. Agency*, 549 U.S. 497 (2007) (No. 05-1120).

<sup>152</sup> *Id.* at 2. As noted above, the CAA requires the EPA administrator to set standards for air pollutants emitted by new motor vehicles when, in the judgment of the EPA, those pollutants will "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. 7521(a)(1) (2006).

<sup>153</sup> *See* Brief of Entergy Corp. as Amicus Curiae in Support of Petitioners, *Massachusetts v. Env'tl. Prot. Agency*, 549 U.S. 497 (2007); Brief of Calpine Corp. as Amicus Curiae in Support of Petitioners, *Massachusetts v. Env'tl. Prot. Agency*, 549 U.S. 497 (2007).

. . . EPA's refusal to recognize its authority to regulate CO<sub>2</sub> fails to appropriately incentivize the development of environmentally responsible power generation to satisfy the nation's energy demand.<sup>154</sup>

The Court's opinion was in three parts.<sup>155</sup> First, the Court held that Massachusetts had standing to challenge the EPA's decision not to regulate certain GHGs.<sup>156</sup> The Court found that land loss due to rising seas caused by global warming was a sufficiently particularized harm to the state to justify standing, and that the EPA's failure to regulate contributed to Massachusetts's injuries.<sup>157</sup> The Court further held that the land loss alleged was "actual and imminent," and that there was a "substantial likelihood that the judicial relief requested [would] prompt EPA to take steps to reduce that risk."<sup>158</sup> The Court partially grounded its decision in a "special solicitude" extended to states in exchange for their surrender of independent power to set environmental policy.<sup>159</sup> Second, the Court found that the broad CAA definition of "air pollutants" authorized the regulation of GHGs.<sup>160</sup> Third, and perhaps most important,<sup>161</sup> the Court held that while the EPA has discretion with regard to the

manner, timing, content, and coordination of its regulations . . . [the] EPA can avoid taking further action only if it determines that greenhouse gases do not contribute to

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<sup>154</sup> Brief of Entergy Corp., *supra* note 153, at 3–4.

<sup>155</sup> See Peter S. Glaser & Douglas A. Henderson, *Massachusetts v. EPA Global Warming Decision: What Does It Mean?*, 22 NAT. RESOURCES & ENV'T 48, 48 (2007).

<sup>156</sup> See 549 U.S. at 516–523. "EPA's steadfast refusal to regulate greenhouse gas emissions presents a risk of harm to Massachusetts that is both 'actual' and 'imminent.' There is, moreover, a 'substantial likelihood that the judicial relief requested' will prompt EPA to take steps to reduce that risk." (internal citation omitted). *Id.* at 521. See also Randall S. Abate, *Massachusetts v. EPA and the Future of Environmental Standing in Climate Change Litigation and Beyond*, 33 WM. & MARY ENVTL. L. & POL'Y REV. 121, 145 (2008).

<sup>157</sup> *Massachusetts v. Env'tl. Prot. Agency*, 549 U.S. at 522–23.

<sup>158</sup> *Id.* at 521.

<sup>159</sup> *Id.* at 519–20. See also Dru Stevenson, *Special Solicitude for State Standing: Massachusetts v. EPA*, 112 PENN ST. L. REV. 1, 5–8 (2007) (discussing state standing to sue federal agencies).

<sup>160</sup> *Massachusetts v. Env'tl. Prot. Agency*, 549 U.S. at 528–29. ("The Clean Air Act's sweeping definition of 'air pollutant' includes 'any air pollution agent or combination of such agents, including any physical, chemical . . . substance or matter which is emitted into or otherwise enters the ambient air. . . ." (emphasis in original) (quoting 42 U.S.C. §§ 7602(g) (2006))).

<sup>161</sup> See Glaser & Henderson, *supra* note 155, at 48.

climate change or if it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do.<sup>162</sup>

Although the Court did not go so far as to require the EPA to make an endangerment finding that would have required it to regulate GHGs immediately,<sup>163</sup> the message sent by the Court was clear—the EPA should stop dragging its feet in regulating GHGs.<sup>164</sup> The decision gave the EPA the option of making an endangerment finding which would automatically trigger regulation under the CAA or to “find that science at this point does not justify the conclusion that [greenhouse gases] endanger public health and welfare.”<sup>165</sup>

Crucially, however, the decision was grounded entirely in the statutory law of the CAA, meaning that Congress retains its prerogative to determine the ultimate direction the EPA will take with regard to carbon regulation.<sup>166</sup>

#### A. *Reaction to the Decision*

As might be expected, reaction to the case has been mixed, with scholars criticizing the approach to judicial review,<sup>167</sup> applauding<sup>168</sup> or decrying<sup>169</sup> the expansion of *parens patriae*, and reading tea leaves as to the effect of the ruling on everything from state attorneys general,<sup>170</sup> to

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<sup>162</sup> *Massachusetts v. Env'tl. Prot. Agency*, 549 U.S. at 533.

<sup>163</sup> *Id.* at 534 (“We need not and do not reach the question whether on remand EPA must make an endangerment finding . . .”).

<sup>164</sup> See Charles de Saillan, *United States Supreme Court Rules EPA Must Take Action on Greenhouse Gas Emissions: Massachusetts v. EPA*, 47 NAT. RESOURCES J. 793, 805, 814 (2007) (stating that the Court’s decision “will make it more difficult for the EPA to avoid addressing the global warming issue in the future.”).

<sup>165</sup> Glaser & Henderson, *supra* note 155, at 49.

<sup>166</sup> See Beermann, *supra* note 10, at 732.

<sup>167</sup> Michael Sugar, *Massachusetts v. Environmental Protection Agency*, 31 HARV. ENVTL. L. REV. 531, 544 (2007) (“[R]egardless of its ultimate effect, *Massachusetts v. EPA* has produced a doctrine of judicial review that lacks coherence and rationality.”).

<sup>168</sup> Ryke Longest, *Massachusetts versus EPA: Parens Patriae Vindicated*, 18 DUKE ENVTL. L. & POL'Y F. 277, 286–87 (2008); Sara Zheb, *From Georgia v. Tennessee Copper to Massachusetts v. EPA: Parens Patriae Standing for State Global-Warming Plaintiffs*, 96 GEO. L. J. 1059, 1067 (2008).

<sup>169</sup> See Ronald A. Cass, *Massachusetts v. EPA: The Inconvenient Truth About Precedent*, 93 VA. L. REV. IN BRIEF 75, 78 (2007), <http://www.virginialawreview.org/inbrief/2007/05/21/cass.pdf>.

<sup>170</sup> See Stevenson, *supra* note 159, at 9–10 (predicting that national issues will have more

the role of Congress.<sup>171</sup> Much of the academic literature has focused on whether the CAA structure is well-suited to regulating CO<sub>2</sub>.<sup>172</sup> Numerous scholars have argued that the CAA, which was designed to target the emission of localized pollutants, does not offer an ideal framework for regulating GHGs,<sup>173</sup> which when released, disperse widely throughout the atmosphere.<sup>174</sup> Professor Nordhaus has argued, for example, that

because of gaps in the potential coverage of CO<sub>2</sub> (and other GHG) emissions, impediments to the establishment of a national cap-and-trade system, and limitations on the control of motor vehicle emission, a regulatory program under the CAA would be significantly less effective and more costly than a program specifically designed to control GHG emissions.<sup>175</sup>

*B. The Next Shoe to Drop*

Despite these much discussed deficiencies, the EPA under the Obama administration has begun to move to comply with the *Massachusetts v. EPA* holding.<sup>176</sup> According to a finding proposed April 24,

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resonance in state Attorney General races given the ease with which states can sue under the “special solicitude doctrine”).

<sup>171</sup> See Jason Scott Johnston, *Climate Change Confusion and the Supreme Court: The Misguided Regulation of Greenhouse Gas Emissions Under the Clean Air Act*, 84 NOTRE DAME L. REV. 1, 57 (2008) (“[B]y compelling EPA to regulate, the Court has radically changed the stakes in congressional bargaining over possible federal legislation and consequently made socially desirable, efficient federal greenhouse gas legislation much less likely.”). See also Beermann, *supra* note 10, at 732 (noting that “the Court placed responsibility for global warming policy on Congress”).

<sup>172</sup> See Robert R. Nordhaus, *New Wine Into Old Bottles: The Feasibility of Greenhouse Gas Regulation Under the Clean Air Act*, 15 N.Y.U. ENVTL. L. J. 53, 54 (2007). See also Arnold W. Reitze, Jr., *Electric Power In a Carbon Constrained World*, 34 WM. & MARY ENVTL. L. & POL’Y REV. 821, 932–33 (2010).

<sup>173</sup> One example of the many problems presented by regulation under the CAA, as noted by Professor Reitze, is that under the current CAA, the EPA would have to set threshold NAAQS standards either above or below current atmospheric levels. Arnold W. Reitze, Jr., *Federal Control of Carbon Emissions: What Are the Options?* 36 B.C. ENVTL. AFF. L. REV. 1, 4 (2009). This would either immediately throw the entire country into non-attainment with no real expectation that any measure implemented would lead to a short-term reduction in global CO<sub>2</sub> levels, or leave the entire country in compliance with the standard, with little need to implement further emission reduction plans. *Id.* at 4–5.

<sup>174</sup> See TIM FLANNERY, *THE WEATHER MAKERS* 22 (2005).

<sup>175</sup> See Nordhaus, *supra* note 172, at 54.

<sup>176</sup> Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases

2009, the emission of six GHGs—carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride—endangers public health and welfare of current and future generations.<sup>177</sup> The proposed finding also stated that the emission of four GHGs—carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons—from new motor vehicles and new motor vehicle engines contributes to atmospheric concentrations of these GHGs and the threat of climate change.<sup>178</sup>

Subsequently, on September 28, 2009, the EPA and the Department of Transportation's National Highway Traffic Safety Administration published a proposed regulation in establishing tailpipe emission limits for carbon dioxide, methane and nitrous oxide for "passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016."<sup>179</sup> Once this regulation is officially promulgated, GHGs, including CO<sub>2</sub>, will be subject to regulation under the CAA, and the six gases listed will be subject to the Prevention of Serious Deterioration regulation discussed above as well as the operating permit program regulations contained in the CAA's Title V.<sup>180</sup>

When this happens, the weaknesses of the CAA as a framework for CO<sub>2</sub> regulation will immediately become apparent. Under the PSD program, any "major source"<sup>181</sup> which emits more than twenty-five tons of regulated pollutants per year ("tpy")<sup>182</sup> of CO<sub>2</sub> or carbon-dioxide equivalent (CO<sub>2</sub>e) is required to submit a compliance plan and permit application within one year of becoming subject to the Title V program.<sup>183</sup> While twenty-five tpy may be a relatively large amount of traditionally regulated CAA pollutants, CO<sub>2</sub> is emitted on a dramatically larger scale.<sup>184</sup> The

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Under Selection Section 202(a) of the Clean Air Act, 74 Fed. Reg. 18886, 18886-910 (proposed Apr. 24, 2009) (to be codified at 40 C.F.R. ch. 1).

<sup>177</sup> *Id.* at 18898.

<sup>178</sup> *Id.* at 18886

<sup>179</sup> Proposed Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 74 Fed. Reg. 49454, 49454 (proposed Sept. 28, 2009) (to be codified at 40 C.F.R. pts. 86, 600 and 49 C.F.R. pts. 531, 533, 537, 538).

<sup>180</sup> SKADDEN, ARPS, SLATE, MEAGHER & FLOM LLP, EPA PROPOSES GREENHOUSE GAS EMISSIONS THRESHOLDS FOR CLEAN AIR ACT PERMIT PROGRAMS 2 (2009), *available at* [www.skadden.com/content/Publications/Publications1897\\_0.pdf](http://www.skadden.com/content/Publications/Publications1897_0.pdf) [hereinafter SKADDENMEMO].

<sup>181</sup> Clean Air Act, 42 U.S.C. § 7412(a)(1) (2006).

<sup>182</sup> *Id.*

<sup>183</sup> *Id.* § 7661(b).

<sup>184</sup> ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, EMISSIONS OF GREENHOUSE GASES IN THE UNITED STATES 2007, at 1 fig.1 (2008) (estimating energy-related carbon dioxide emissions in the U.S. at 5,916.7 million tons in 2007).

EPA estimates that more than six million existing GHG emitters (who currently fall below the threshold) would become subject to the Title V operating permit program.<sup>185</sup> This level of regulation is currently not feasible, both for state permitting authorities to enforce, and for the millions of small companies required to comply.<sup>186</sup> In order to avoid this outcome, the EPA has proposed a Tailoring Rule which would raise the threshold to 25,000 tpy.<sup>187</sup> Although the EPA has attempted to effect this change by regulation, relying on “administrative necessity” and “absurd results” doctrines,<sup>188</sup> the agency may have difficulty defending this rulemaking if challenged, given the clear language of the CAA that it is effectively changing.<sup>189</sup>

### C. *The Great Carbon Dioxide Debate: What to Do?*

As noted, Congress retains the power to mandate how GHGs will be regulated, and may create a structure for regulating the gases outside of the current CAA framework.<sup>190</sup> Given the unsuitability of regulation of CO<sub>2</sub> under the CAA, and the dubious legality of the EPA’s efforts to shoehorn regulations into the existing framework, it seems natural that Congress would step in to cut the Gordian knot and establish a new framework for tackling global warming.

Where the 91st Congress “reflect[ed] congressional dissatisfaction with the progress of existing air pollution programs”<sup>191</sup> in 1970 by passing “a drastic remedy to what was perceived as a serious and otherwise uncheckable problem of air pollution,”<sup>192</sup> the 111th Congress has thus far failed to embrace a similarly “aspirational”<sup>193</sup> approach to tackling climate change. In part, this reflects the complexity of the tradeoffs that must be made in assigning the costs and benefits of new legislation.<sup>194</sup> It also

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<sup>185</sup> See Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 74 Fed. Reg. 55292, 55295 (proposed Oct. 27, 2009) (to be codified as 40 C.F.R. pts. 51, 52, 70, 71).

<sup>186</sup> *Id.* at 55292.

<sup>187</sup> *Id.* at 55295.

<sup>188</sup> *Id.* at 55292.

<sup>189</sup> See SKADDEN MEMO, *supra* note 181, at 3.

<sup>190</sup> See Beermann, *supra* note 10, at 732.

<sup>191</sup> See *Giovinazzo*, *supra* note 106, at 112 (quoting *Union Elec. Co. v. Env'tl. Prot. Agency*, 427 U.S. 246, 249 (1976)).

<sup>192</sup> *Id.* at 113 (quoting *Union Elec. Co. v. Env'tl. Prot. Agency*, 427 U.S. 246, 256 (1967)).

<sup>193</sup> *Id.* at 99.

<sup>194</sup> See Johnston, *supra* note 171, at 18–20.

likely reflects continued skepticism about the underlying science of global warming, despite all evidence to the contrary.<sup>195</sup>

The delay is not for lack of proposals. In the 105th Congress (1997–1998) a mere seven bills dealing with climate change were introduced,<sup>196</sup> by the 109th (2005–2006) there were over 106 bills, amendments, and resolutions.<sup>197</sup> The 111th Congress has been no less active: on June 26, 2009, the House of Representatives passed the American Clean Energy and Security Act of 2009.<sup>198</sup> The Bill, commonly known as the Waxman-Markey Bill after its principal sponsors, contains five titles.<sup>199</sup> Title I institutes a federal renewable electricity and efficiency standard,<sup>200</sup> regulates carbon capture and sequestration technology,<sup>201</sup> institutes new performance standards for new coal-fueled power plants,<sup>202</sup> and provides funds for research and development of a variety of energy efficient technologies.<sup>203</sup> Title II includes provisions related to building,<sup>204</sup>

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<sup>195</sup> The skeptics in Congress are led by Sen. James Inhofe (R-Okla.), who continues to fiercely oppose any and all climate legislation, and to question the “consensus” on climate science. See *Key Issues—View; Environment*, JAMES M. INHOFE; U.S. SENATOR-OKLAHOMA, [http://inhofe.senate.gov/public/index.cfm?FuseAction=KeyIssues.View&Issue\\_id=4afeb468-d083-8a0b-ce78-0731b2c4df61&CFID=57871585&CFTOKEN=41248603](http://inhofe.senate.gov/public/index.cfm?FuseAction=KeyIssues.View&Issue_id=4afeb468-d083-8a0b-ce78-0731b2c4df61&CFID=57871585&CFTOKEN=41248603) (last visited Oct. 2, 2010); MINORITY STAFF OF S. COMM. ON ENVIRONMENT AND PUBLIC WORKS, 111TH CONG. ‘CONSENSUS’ EXPOSED: THE CRU CONTROVERSY 1 (Comm. Print 2010). Such attacks on the legitimacy of climate science by fringe politicians gives political cover to more moderate politicians to oppose legislation.

<sup>196</sup> See *Legislation in the 109th Congress Related to Global Climate Change*, PEW CTR. ON GLOBAL CLIMATE CHANGE, <http://www.pewclimate.org/federal/congress/109> (last visited Oct. 20, 2010).

<sup>197</sup> *Legislation in the 110th Congress Related to Global Climate Change*, PEW CTR. ON GLOBAL CLIMATE CHANGE, <http://www.pewclimate.org/federal/congress/110> (last visited Oct. 20, 2010) (these included various cap-and-trade proposals, resolutions calling for participation in international climate change negotiations, funding for climate change research, as well as “scores of bills that address energy efficiency, energy security, new technology research, agriculture, resource management, national security, and wildlife preservation”).

<sup>198</sup> H.R. 2454, 111th Cong. (2009).

<sup>199</sup> See *H.R. 2454: American Clean Energy and Security Act of 2009*, GOVTRACK.US, <http://www.govtrack.us/congress/bill.xpd?bill=h111-2454> (last visited Oct. 20, 2010); H.R. 2454 § 1, 111th Cong. (2009).

<sup>200</sup> H.R. 2454, 111th Cong. § 101 (2009). See also Joshua P. Fershee, *Changing Resources, Changing Market: The Impact of a National Renewable Portfolio Standard on the U.S. Energy Industry*, 29 ENERGY L.J. 49, 52 (2008).

<sup>201</sup> H.R. 2454 § 112, 111th Cong. (2009).

<sup>202</sup> *Id.* § 116.

<sup>203</sup> See, e.g., *id.* §§ 141–46 (promoting smart grid technology).

<sup>204</sup> *Id.* § 201.

lighting,<sup>205</sup> appliance,<sup>206</sup> and vehicle energy efficiency programs.<sup>207</sup> Title IV includes provisions to preserve domestic competitiveness and support workers,<sup>208</sup> provide assistance to consumers,<sup>209</sup> and support domestic<sup>210</sup> and international adaptation initiatives.<sup>211</sup> Titles III and V contain the meat of the Bill—a cap-and-trade program designed to limit emissions of six GHGs from roughly 7400 energy producers<sup>212</sup> including CO<sub>2</sub>, methane and nitrous oxide, to increasingly strict national quotas.<sup>213</sup>

In the first year of the cap-and-trade program envisioned by Waxman-Markey, emissions allowances would be set at ninety-seven of the emissions from covered entities in 2009.<sup>214</sup> Allowances would then decline every few years until 2050 when emissions under the program are projected to be fourteen percent of what they would be under a business-as-usual approach.<sup>215</sup> In addition to emission allowances, Waxman-Markey would also allow companies to purchase domestic or international carbon offsets.<sup>216</sup> The CBO estimates that emission allowances for one metric ton of CO<sub>2</sub>e would vary in price from fifteen dollars per metric ton of CO<sub>2</sub>e (“mtCO<sub>2</sub>e”) initially to twenty-six dollars per mtCO<sub>2</sub>e in 2019.<sup>217</sup>

While utilities that are dependent on carbon intensive processes may see a substantial increase in their cost of production, those with low carbon portfolios—such as those utilizing nuclear, hydroelectric, and wind/solar generation—may see substantial windfall profits.<sup>218</sup> The Bill

<sup>205</sup> *Id.* § 211.

<sup>206</sup> *Id.* § 212.

<sup>207</sup> H.R. 2454 § 222, 111th Cong. (2009).

<sup>208</sup> *Id.* § 421.

<sup>209</sup> *Id.* § 431.

<sup>210</sup> *Id.* § 451.

<sup>211</sup> *Id.* § 491.

<sup>212</sup> CONG. BUDGET OFFICE, COST ESTIMATE: H.R. 2454 AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009 4 (2009), available at <http://www.cbo.gov/ftpdocs/102xx/doc10262/hr2454.pdf> [hereinafter Waxman-Markey Cost Estimate]. “According to CBO’s estimates, the programs would cover . . . about 78 percent [of U.S. emissions] in 2015, and about 86 percent in 2020.” *Id.*

<sup>213</sup> See *At a Glance; American Clean Energy and Security Act of 2009*, PEW CTR. ON GLOBAL CLIMATE CHANGE, <http://www.pewclimate.org/docUploads/Waxman-Markey-short-summary-revised-June26.pdf>.

<sup>214</sup> Waxman-Markey Cost Estimate, *supra* note 213, at 5.

<sup>215</sup> *Id.*

<sup>216</sup> *Id.* at 6.

<sup>217</sup> *Id.* at 12.

<sup>218</sup> Ezra D. Hausman et al., *Productive and Unproductive Costs of CO<sub>2</sub> Cap-and-Trade: Impacts on Electricity Consumers and Producers*, SYNAPSE ENERGY ECONOMICS INC. 4–5 (2009), <http://www.nasuca.org/archive/Synapse%20Report-7-15-09.pdf>.

attempts to mitigate this imbalance by offering various incentives and subsidies to companies which implement clean coal technology.<sup>219</sup>

With the passage of Waxman-Markey in the House, the focus has moved to the Senate where, somewhat unsurprisingly,<sup>220</sup> progress has slowed to a crawl.<sup>221</sup> Once again, the delay is not for lack of proposals—there are at least five major bill proposals vying for attention from the four separate committees with jurisdiction over the legislation.<sup>222</sup> These bills vary widely in approach<sup>223</sup> and stringency.<sup>224</sup> Uncertainty about the shape of the ultimate regulatory program also extends to the costs associated which are expected to be dramatic under any plan that seriously addresses the issue.<sup>225</sup>

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<sup>219</sup> See *In Brief: What the Waxman-Markey Bill Does for Coal*, PEW CTR. ON GLOBAL CLIMATE CHANGE (2009), <http://www.pewclimate.org/docUploads/brief-what-waxman-markey-does-for-coal-oct2009.pdf> (suggesting that “a suite of technologies exists—known as carbon capture and storage—that can enable coal to play a significant role in a low-carbon energy future”). *But see* Parenteau, *supra* note 12, at 1460 (“Unfortunately, carbon capture and sequestration (CCS) has not been demonstrated on a commercial scale and estimates are that, absent an accelerated R&D program and a major infusion of public funds, it could take a decade or more before the technical, legal, and public acceptance hurdles to CCS are overcome.”).

<sup>220</sup> See ROBERT A. CARO, *LYNDON JOHNSON: MASTER OF THE SENATE 1–49* (2002) (suggesting that the Senate is, by design, a more ponderous body).

<sup>221</sup> See John Harwood, *No Clear Map for Democrats On Path to New Energy Plan*, N.Y. TIMES, Nov. 9, 2009, at A11 (suggesting that Congress is unlikely to pass a “cap-and-trade” system in 2010).

<sup>222</sup> See *Climate Action in Congress*, PEW CTR. ON GLOBAL CLIMATE CHANGE [http://www.pewclimate.org/what\\_s\\_being\\_done/in\\_the\\_congress](http://www.pewclimate.org/what_s_being_done/in_the_congress) (last visited Oct. 20, 2010).

<sup>223</sup> Compare Clean Energy Jobs and American Power Act (CEJAPA), S. 1733, 111th Cong. (2009) (as approved by S. Comm. On Env't and Pub. Works, Nov. 5, 2009) (commonly known as the Kerry-Boxer Bill, this proposal focuses primarily on reducing U.S. GHG emissions), with Clean Energy Act of 2009, S. 2776, 111th Cong. (2009) (known as the Alexander-Webb Bill, this proposal would simply expand inducements for constructing new nuclear power plants), and Clean Energy Partnerships Act of 2009, S. 2729, 111th Cong. (2009) (proposing an offset system to reward agriculture and forestry projects offsetting carbon emissions).

<sup>224</sup> Compare S. 1462, § 132(b) 111th Cong. (approved by S. Energy and Natural Res. Comm. June 17, 2009) (containing Renewable Energy Standard targets: 2011–2013, 3.0%; 2014–2016, 6.0%; 2017–2018, 9.0%; 2019–2020, 12.0%; 2021–2039, 15.0%), with H.R. 2454 § 101(d), 111th Cong. (2009) (Waxman-Markey's targets are 2012–2013, 6.0%; 2014–2015, 9.5%; 2016–2017, 13.0%; 2018–2019, 16.5%, 2020–2039, 20.0%).

<sup>225</sup> See, e.g., Memorandum from Judson Jaffee, U.S. Dep't of the Treasury (Nov. 6, 2008) (draft) (regarding domestic climate policy transition), available at <http://www.openmarket.org/wp-content/uploads/2009/11/FOIA-Cap-andTrade-2009-09-11.PDF>. The draft memo states that economic costs of climate change policies will “likely be on the order of 1% of GDP, making them equal in scale to all existing environmental regulation,” and noting that

## III. STATE REGULATORY OPTIONS

While Congress has dithered, states have taken to their role as “laboratories”<sup>226</sup> of democracy with various GHG regulations of their own.<sup>227</sup> These regulations have taken a number of innovative forms including “system benefit funds, appliance standards, building codes, farm and forestland conservation programs, transportation efficiency measures, alternative fuels mandates, solid waste management reform, industrial process reform and other programs.”<sup>228</sup> The overall effectiveness of these approaches is hampered by the fact that they are not well coordinated and create a patchwork of regulation.<sup>229</sup> State programs to combat carbon emissions—whether individually or in combination with other states—may also suffer constitutional infirmities under the commerce, supremacy, and compact clauses.<sup>230</sup>

Perhaps the most prevalent approach is the introduction of RPSs.<sup>231</sup> Beginning in the mid-1980s with Iowa,<sup>232</sup> and picking up steam through the 1990s, to date, twenty-eight states have passed mandatory RPSs,<sup>233</sup> and another five, including Virginia have passed voluntary standards.<sup>234</sup> State RPSs typically require that a certain percentage of the electricity

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long term cost estimates vary dramatically depending on the model used. *Id.*

<sup>226</sup> *New State Ice Co. v. Liebmann*, 285 U.S. 262, 311 (1932) (Brandeis, J., dissenting).

<sup>227</sup> See Parenteau, *supra* note 12, at 1453; David Hurlbut, *A Look Behind the Texas Renewable Portfolio Standard: A Case Study*, 18 NAT. RESOURCES J. 129, 129–30 (2008); Michael Saunders, *An Overview of Nevada’s Renewable Energy Portfolio Standard*, 17 NEV. LAW. 6, 7 (2009).

<sup>228</sup> Thomas D. Peterson, *The Evolution of State Climate Change Policy in the United States: Lessons Learned and New Directions*, 14 WIDENER L.J. 81, 93 (2004).

<sup>229</sup> See Benjamin K. Sovacool & Christopher Cooper, *The Hidden Costs of State Renewable Portfolio Standards (RPS)*, 15 BUFF. ENVTL. L.J. 1, 4–5, 7 (2007) (advocating a national RPS program).

<sup>230</sup> See Steven Ferrey, *Goblets of Fire: Potential Constitutional Impediments to the Regulation of Global Warming*, 35 ECOLOGY L.Q. 835, 839–41 (2008).

<sup>231</sup> See generally James W. Moeller, *Of Credits and Quotas: Federal Tax Incentives for Renewable Resources, State Renewable Portfolio Standards, and the Evolution of Proposals for a Federal Renewable Portfolio Standard*, 15 FORDHAM ENVTL. L. REV. 69, 97–131 (2004) (detailing the RPS approaches in fourteen states).

<sup>232</sup> See Sovacool & Cooper, *supra* note 230, at 3.

<sup>233</sup> See *id.* at 3.

<sup>234</sup> See *States with Renewable Portfolio Standards*, U.S. DEP’T OF ENERGY, [http://apps1.eere.energy.gov/states/maps/renewable\\_portfolio\\_states.cfm#chart](http://apps1.eere.energy.gov/states/maps/renewable_portfolio_states.cfm#chart) (last updated June 16, 2009). The target goals and implementation dates for these different programs vary widely from state to state. Pennsylvania, for example, requires eight percent of its electricity to be produced from renewable sources by 2020, while California requires thirty-three percent by 2030. *Id.*

a utility produces be generated from renewable sources.<sup>235</sup> The goals are usually tiered, beginning at a modest level and increasing gradually over time.<sup>236</sup> By mandating the amount and timetable, but not the method, this approach to regulation allows utilities significant flexibility to structure their portfolios as they see fit.<sup>237</sup> Utilities that cannot meet the goals set by the program may purchase credits for energy produced elsewhere in order to bring their portfolio into compliance.<sup>238</sup> Additionally, RPS standards do not appear to substantially raise consumer electricity bills.<sup>239</sup>

Unfortunately, RPSs also have a number of significant downsides which limit effectiveness, particularly free rider problems and encouragement of gaming due to differences in what constitutes renewable sources from state to state.<sup>240</sup> Individual states can bear substantial costs by mandating an RPS, but benefits are not limited to their borders, allowing neighboring states to enjoy the benefits of less combusted fossil fuels as well as less expensive power.<sup>241</sup> As noted above, the very fact that RPS programs are state-based means that they lack the coordinated scale and comprehensiveness of a national program.<sup>242</sup>

#### A. *Virginia's Renewable Portfolio Standard*

As noted above, Virginia passed an RPS in 2007.<sup>243</sup> Instead of *mandating* how much electricity must be generated from renewables,<sup>244</sup>

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<sup>235</sup> *Renewable Portfolio Standards Fact Sheet*, U.S. ENVTL. PROT. AGENCY (Apr. 2009), [http://www.epa.gov/chp/state-policy/renewable\\_fs.html](http://www.epa.gov/chp/state-policy/renewable_fs.html).

<sup>236</sup> See Moeller, *supra* note 232, at 97–131 (twelve of the fourteen states discussed had tiered goals). A typical statute, from Massachusetts, requires four percent of electricity to come from renewable sources in 2009, rising one percent each year thereafter through 2020 at fifteen percent. 225 Mass. Code Regs. § 14.07 (2010).

<sup>237</sup> See Sovacool & Cooper, *supra* note 230, at 2–3 (noting that RPSs have three advantages over “command-and-control” regulation: the costs are born by the utilities, not the government; utilities have flexibility in reaching goals; and RPSs featuring tradable credits will automatically phase out when the price of credits reaches zero).

<sup>238</sup> See *The Mechanics of a Renewable Portfolio Standard Applied at the State Level*, AM. WIND ENERGY ASS'N (Nov. 1997), <http://www.awea.org/policy/rpsmechste.html>.

<sup>239</sup> See U.S. DEP'T OF ENERGY, NAT'L RENEWABLE ENERGY LAB., RENEWABLES PORTFOLIO STANDARD OVERVIEW 2 (2005), <http://nrel.gov/docs/fy05osti/37627.pdf> (surveying eight recent RPS programs and finding an average increase to residential customers of less than five dollars per year).

<sup>240</sup> See Sovacool & Cooper, *supra* note 230, at 9.

<sup>241</sup> See *id.* at 9–11.

<sup>242</sup> See *id.* at 7.

<sup>243</sup> VA. CODE ANN. § 56-585.2 (West 2009).

<sup>244</sup> Qualifying renewable sources include “sunlight, wind, falling water, biomass, sustainable

however, utilities are free to opt in if they choose.<sup>245</sup> Qualifying utilities are rewarded with a performance incentive of fifty basis points (0.5%).<sup>246</sup> This is just one of many weaknesses in the statute which, due to loopholes, allows utilities to satisfy renewable energy goals “with significantly lower quantities of renewable energy than the statute appears to require.”<sup>247</sup> To take just a few of the more egregious of these loopholes, the goals are tied to a base year, 2007, and do not rise with increased demand.<sup>248</sup> Therefore by 2025, when the goals reach their maximum of fifteen percent,<sup>249</sup> the actual percentage of electricity required to be produced from renewables will be far less than fifteen percent of the electricity produced in that year.<sup>250</sup> Moreover, electricity produced from wind and solar sources are granted “double credit,”<sup>251</sup> effectively halving the RPS goals.<sup>252</sup> Finally, as noted in Part I, the Virginia RPS credits energy produced by *existing* hydroelectric sources towards its RPS goals.<sup>253</sup> While this was perhaps necessary to prevent the sort of gaming of the system discussed above,<sup>254</sup> when combined with the extremely low goals set by the program, the standard provides less than optimal incentives for the development of new renewable sources of electricity.

Ultimately, state RPS standards are a stopgap measure and full involvement and commitment by the federal government will be required to tackle climate change.<sup>255</sup> Regulation is coming.<sup>256</sup> The question that remains for this note is what Virginia should do in the meantime.

#### IV. SOLUTIONS FOR VIRGINIA

The foregoing has been intended to demonstrate that the regulatory environment regarding CO<sub>2</sub> emissions is in a dramatic state of flux. It

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or otherwise . . . energy from waste, municipal solid waste, wave motion, tides, and geothermal power.” VA. CODE ANN. § 56-576 (2009).

<sup>245</sup> *Id.* § 56-585.2(B). Applications to participate in the program are to be approved if there is a “reasonable expectation” that a utility will be able to meet the RPS goals. *Id.*

<sup>246</sup> *Id.* § 56-585.2(C).

<sup>247</sup> See Curtis, *supra* note 49, at 775.

<sup>248</sup> VA. CODE ANN. §§ 56-585.2(A), 56-585.2(D) (2009).

<sup>249</sup> *Id.* § 56-585.2(D).

<sup>250</sup> See Curtis, *supra* note 49, at 777.

<sup>251</sup> VA. CODE ANN. § 56-585.2(C) (2009).

<sup>252</sup> See Curtis, *supra* note 49, at 778.

<sup>253</sup> See *supra* note 49 and accompanying text.

<sup>254</sup> See Sovacool & Cooper, *supra* note 230, at 9.

<sup>255</sup> See Parenteau, *supra* note 12, at 1474.

<sup>256</sup> See Hausman et al., *supra* note 219, at 1.

seems clear, however, that new federal regulation will be passed in the coming years.<sup>257</sup> This regulation will likely raise the cost of producing electricity from carbon intensive fuels.<sup>258</sup> While it is probable that future legislation will include subsidies to cushion the blow to the coal industry, it seems inevitable that electric utilities with less carbon dependent portfolios will be better situated than those which remain chained to “King Coal.”<sup>259</sup> In order to avoid this fate, Virginia should pursue policies aimed at three goals: conservation, efficiency, and diversification.

A. *Conservation and Efficiency*

Energy conservation and efficiency improvements offer Virginia the most cost-effective means of decreasing carbon emissions and controlling its energy future.<sup>260</sup> A study comparing investments in energy efficiency with new plant construction found that the first option offered “substantially lower cost[s]” to Virginia consumers.<sup>261</sup> Furthermore, the possibilities for efficiency gains in Virginia are substantial. In a separate study, conducted in 2008 by the American Council for an Energy-Efficient Economy, entitled “Energizing Virginia,” the authors specifically recommended adopting building energy codes, appliance efficiency standards, manufacturing initiatives, and an Energy Efficiency Resource Standard.<sup>262</sup> If implemented successfully, this set of policies is projected to save 10,000 gigawatt hours (“GWh”) of electricity, enough to meet eight percent of Virginia’s energy needs in 2015.<sup>263</sup> Although Virginia’s official energy plan set a target of “reduc[ing] electric use by 10 percent by 2022,”<sup>264</sup> it is unclear whether these goals are being actively pursued.<sup>265</sup> Instead of permitting new coal plants, Virginia should invest heavily in

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<sup>257</sup> See *id.*

<sup>258</sup> See *id.*

<sup>259</sup> See Reitze, *supra* note 172, at 832–33 (arguing that emissions caps will be an impediment to the expansion of the coal industry, and that the major losers will be Southeastern and Midwestern states which are dependent on coal-fired electricity).

<sup>260</sup> See THE VIRGINIA ENERGY PLAN, *supra* note 58, at 58.

<sup>261</sup> See ASSESSING THE IMPACT, *supra* note 13, at ES-2. It should be noted that this study, while conducted by an independent consultant, was financed by Appalachian Voices.

<sup>262</sup> AM. COUNCIL FOR AN ENERGY-EFFICIENT ECON. (ACEEE), *Energizing Virginia: Efficiency First*, iii (2008), <http://www.aceee.org/research-report/e085> (click on hyperlink to download report).

<sup>263</sup> *Id.* at 40.

<sup>264</sup> See THE VIRGINIA ENERGY PLAN, *supra* note 58, at 58.

<sup>265</sup> Given that Virginia’s energy consumption is increasing dramatically, one would speculate not. See *supra* note 26 and associated text.

energy efficiency measures. Consumers have a direct stake in electricity decisions in Virginia and, as a market-regulating state, they also have a right to demand that decisions be made in their interest.<sup>266</sup> Expenditures on efficiency gains will ultimately save taxpayers money and reduce carbon emissions.<sup>267</sup> Moreover, if new coal power plants are to be constructed in Virginia, they should be conditioned on the retiring of older, less efficient plants in order to reduce net emissions.<sup>268</sup>

### B. *Diversification*

In order to push companies to diversify their energy portfolios and move away from carbon fuels, Virginia must strengthen and mandate its Renewable Portfolio Standard in order to provide real incentives for companies to pursue *new* renewable sources of energy.<sup>269</sup> Virginia is currently near the middle of the pack in terms of net generation from renewables with a total of 3709 MW.<sup>270</sup> It is estimated that Virginia has a total renewable capacity of between 14,700–47,750 MW including at least 930 MW of economical near-term development potential.<sup>271</sup> The addition of just this near-term capacity could eliminate the need to build nearly two coal-powered plants the size of the VCHEC.<sup>272</sup>

The goals of a revamped RPS should be: encouraging new energy entrepreneurs to enter the market; allowing small-scale renewable energy providers to supply energy to the grid; allowing fair market

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<sup>266</sup> See *supra* Part I.

<sup>267</sup> See ASSESSING THE IMPACT, *supra* note 13, at ES-1 to ES-2.

<sup>268</sup> In fact, this appears to have been done to some extent in the VCHEC case. Dominion agreed to convert its Bremo Power Station in Fluvanna from coal to natural gas. See Stephen Igo, *Air Board Unanimously Approves Permits for Dominion Power Plant in St. Paul*, TIMESNEWS.NET (Jun. 25, 2008), <http://www.timesnews.net/article.php?id=9006950>. However, it is unclear whether Dominion would have made the upgrade regardless because its Bremo plant was the oldest, with generating units in operation since 1950 and 1958. See *Power Station*, DOMINION RESOURCES, INC., <http://www.dom.com/about/stations/fossil/bremo-power-station.jsp> (last accessed Oct. 20, 2010).

<sup>269</sup> See Curtis, *supra* note 49, at 791–92.

<sup>270</sup> ENERGY INFO. ADMIN., U.S. DEP'T OF ENERGY, *2008 Renewable Electricity Listed Alphabetically by State* (Aug. 2010), [http://www.eia.doe.gov/cneaf/solar.renewables/page/state\\_profiles/sum\\_table.html](http://www.eia.doe.gov/cneaf/solar.renewables/page/state_profiles/sum_table.html). In 2008, Virginia was twenty-second in the nation in net energy production from renewables. *Id.*

<sup>271</sup> THE VA. CTR. FOR COAL AND ENERGY RESEARCH, VA POLYTECHNIC INST. & STATE UNIV., *A STUDY OF INCREASED USE OF RENEWABLE ENERGY RESOURCES IN VIRGINIA 19 (2005)*, available at [http://www.energy.vt.edu/Publications/Incr\\_Use\\_Renew\\_Energy\\_VA\\_rev1.pdf](http://www.energy.vt.edu/Publications/Incr_Use_Renew_Energy_VA_rev1.pdf).

<sup>272</sup> See DOMINION RESOURCES, INC., *supra* note 4. The VCHEC will be a 585 MW facility. *Id.*

competition to drive investment in the most cost-effective sources; permitting utilities a fair rate-of-return; and ensuring that utility rates remain affordable.<sup>273</sup> While it is possible that a new RPS would be in place for a short period of time before being preempted by federal regulation,<sup>274</sup> in the short term, ratepayers should not pay more for energy unless utility companies are actually diversifying their portfolios.

#### CONCLUSION

The United States, and indeed the world, are in the midst of a great debate about how to address global warming and climate change. There are a variety of policy options available at both the federal and state level.<sup>275</sup> If passed, many of these options, which force producers to internalize the costs of emissions, would likely make producing electricity from carbon intensive fuels far less attractive.<sup>276</sup> With so much uncertainty regarding the future cost of producing electricity in this way, Virginia should take a restrained approach to new coal plant permitting. Such an approach will protect the consumer from higher rates and perhaps even manage to address “the most pressing environmental challenge of our time.”<sup>277</sup> In the interim, investment in new renewable energy sources and conservation and efficiency gains can help secure Virginia’s energy needs.

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<sup>273</sup> *Accord* Curtis, *supra* note 49, at 791–92.

<sup>274</sup> *See* Hausman et al., *supra* note 219, at 1.

<sup>275</sup> *See, e.g.*, AM. COUNCIL FOR AN ENERGY-EFFICIENT ECON., *supra* note 263, at iii.

<sup>276</sup> *See* Hausman et al., *supra* note 219, at 1, 4.

<sup>277</sup> *Massachusetts v. Env'tl. Prot. Agency*, 549 U.S. 497, 505 (2007) (internal citation omitted).