

# CLIMATE OF CAPITULATION

AN INSIDER'S ACCOUNT  
OF STATE POWER IN A COAL NATION

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The United States has pledged to the world community a reduction in greenhouse gas emissions by 26–28 percent below 2005 levels in 2025. Because much of this reduction must come from electric utilities, especially coal-fired power plants, coal states will make or break the United States' commitment to reducing emissions. In *Climate of Capitulation*, Vivian Thomson offers an insider's account of how power is wielded in environmental policy making at the state level. Thomson, a former member of Virginia's State Air Pollution Control Board, identifies a "climate of capitulation" in state government—a deeply rooted favoritism toward coal and electric utilities in states' air pollution policies.

Thomson narrates three cases involving coal and air pollution from her time on the Air Board. She illuminates the overt and covert power struggles surrounding air pollution limits for a coal-fired power plant just across the Potomac from Washington, for a controversial new coal-fired electrical generation plant in coal country, and for coal dust pollution from truck traffic in a country hollow. Thomson links Virginia's climate of capitulation with campaign donations that make legislators politically indebted to coal and electric utility interests, a traditionalistic political culture tending to inertia, and a part-time legislature that depended on outside groups for information and bill drafting. Extending her analysis to fifteen other coal-dependent states, Thomson offers policy reforms aimed at mitigating the ingrained biases toward coal and electric utilities in states' air pollution policy making.

## 3 Roda: Coal, Dust, and Inequality

Another Board matter had to do with a small rural hollow in the unincorporated Appalachian town of Roda, Virginia, not far from Wise. Coal trucks were traveling along Roda Road, a narrow, steep-sided road leading to and from the area's surface mines, which have scarred the landscape in every direction. Streams of trucks were raising clouds of dirt in their wake, as coal dust in their beds and mud caked on the trucks flew into the air. Residents counted ten trucks per hour, twenty hours a day, on weekdays. In 2009, when the Air Board became involved, there were nine active surface mining permits near Roda Road. A 2016 satellite view of the local area showed extensive mountaintop removal and a smattering of houses along Roda Road's four-mile stretch.<sup>1</sup>

The dust made outside activities intolerable and penetrated inside people's homes, which are located only 10 to 20 feet from the road. Nell Campbell, 91 years old, said she could not sit on her porch or work in her garden because of the dust. Her grandchildren couldn't play in the yard. Former coal miner Ronnie Willis, 70 years old, said he was forced to power wash his porch several times a year and that he had to change his furnace filter every month. He could not open the windows or take walks on the road. Mr. Willis suffered from emphysema and black lung disease and he worried about the impacts of the dust on his already degraded health. Mr. Willis spoke of the intimidation friends had experienced at the hands of coal companies: "Ever since Carl Ramey ... challenged a coal company for conducting mining too close to his home and was told to stop harassing the coal company and ordered to pay their attorney fees, a lot of people in the community are afraid to challenge the companies that are harming our health and well being. But I am not afraid to stand up for myself and my community." Both Mr. Willis and Mrs. Campbell said their homes had become unmarketable because of the airborne filth.<sup>2</sup>

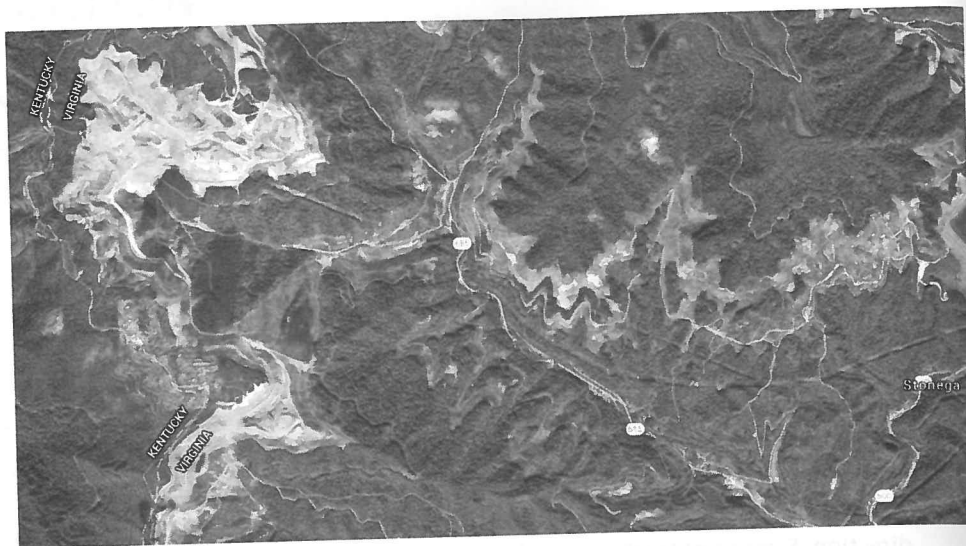


Figure 3.1

A Google Earth view of Roda Road (in center of photo) and surrounding surface mines.

In 2004, Mr. Willis, Mrs. Campbell and others had begun to complain to the Virginia Department of Mines, Minerals and Energy, the state agency that oversees mining operations, about the clouds of particulate matter raised by the trucks. Mr. Willis thought it would be a simple, inexpensive matter to reroute the trucks or wash them before sending them away from the mine. The Department of Mines, Minerals and Energy responded by saying it had no authority over dust stirred up by trucks on public roads.<sup>3</sup>

Roda's problems with fugitive dust came before the Air Board in 2009, soon after the Board's numbers increased from five to seven members because of a 2008 state law. Under those new provisions, the Board's members were to be "fairly representative of conservation, public health, business, and agriculture." The selection of three new Board appointees in the summer of 2008 was the subject of intense discussions in Governor Tim Kaine's office. Robert Burnley, Director of the state Department of Environmental Quality (DEQ) under Governor Mark Warner, was a candidate. Mr. Burnley's professional credentials were impressive, and his experience at the DEQ stretched back to the 1990s. It is hard to imagine anyone more qualified to sit on the state's Air Pollution Control Board.<sup>4</sup>



Figure 3.2

Coal trucks on Roda Road (photo courtesy of John Harbison).

But DEQ Director David Paylor attempted to dissuade the Secretary of Natural Resources, Preston Bryant, and a senior aide to the governor, Mark Rubin, from advancing Mr. Burnley's name, because Mr. Burnley had publicly opposed efforts to transfer power from the state's citizen environmental boards to the DEQ Director:

His actions in that process appear to me and staff to have created an alliance with the environmental sector that was not entirely consistent with his past. It has left some of us confused and unsure that he can operate independently in the future. My additional concern is that he would be set up as the final arbiter [sic] between the three environmental appointments and the others for issues in question. It would put too much power in one persons [sic] hands. In the past I may have trusted him in that role; I'm now unsure and don't relish that pressure [sic] from my immediate predecessor in this environment.

Mr. Paylor indicated that, under state law, the Board should be composed of "reps from agriculture (a bit of a stretch for air), health, environment, and business." He said "the current board has 3 strong environmental reps" and thus the environmental sector was "fully represented." Among Mr. Paylor's

top picks were "Ted," a "business advocate," and "Randy" (Gordon), who had been the state's health commissioner under Governor George Allen. As Governor Kaine's staff wrote and rewrote the announcement of Mr. Gordon's appointment to the Board, the governor's Conflict of Interest Director referred to him as "a token Republican."<sup>5</sup>

The Board's dynamics changed with its increased numbers. New member Sterling Rives was attentive and involved. Sterling was the attorney for Hanover County, a populous jurisdiction that lies to the north of Richmond, the state capital. Sterling labored with great good humor to find a middle ground between the Board's two three-member factions. Bernadette Reese had been a senior environmental engineer at BASF Corporation. Bernadette left the Board quickly, in August 2008. Her replacement was Marina Phillips, a private attorney who attended two Board meetings. Marina resigned from the Board because of conflict of interest concerns. After Marina came Manning "Chip" Gasch, a partner at Hunton and Williams, a Richmond-based law firm that had represented Mirant in its suits against the Air Board. Hullie Moore, Bruce Buckheit, Richard Langford and I remained on the Board. After Mirant and the City of Alexandria reached a settlement agreement in the summer of 2008, the most pressing issue on the Board's agenda was fugitive dust in Roda.

### Why Worry About Dust?

Clouds of dust unquestionably constitute a nuisance, but they can also harm public health and non-human organisms as well. Particulate matter causes the most adverse human health effects when it consists of small-diameter particles known as fine particulate matter. Since the 1980s the US Environmental Protection Agency and other public health authorities have focused on reducing ambient (outdoor) air levels of particulate matter that can penetrate into people's lungs.<sup>6</sup>

The list of serious health effects from inhalable particulate exposure is long and growing. Ambient fine particulate matter is now recognized as a human carcinogen. Other adverse effects from exposure to particulate matter include respiratory illnesses (e.g., asthma and bronchitis), cardiovascular effects (e.g., heart attacks), and premature mortality. One reputable study estimated that 200,400 people died prematurely in the United States in 2005 because of exposure to fine particulate matter emitted from combustion sources. Of those deaths, 52,200 were attributable to emissions from coal-fired electric utilities and 52,800 were attributable to road transportation emissions. Another estimate holds that, worldwide, 3.2 million

people died in 2010 because of outdoor exposures to fine particulate pollution. One expert has concluded that air pollution is "by far the leading environmental risk factor for disease."<sup>7</sup>

Particulate matter is especially harmful to sensitive populations—children, people with respiratory problems (like Mr. Willis), and elderly people (like Ms. Campbell). Poor and minority children are particularly susceptible to asthma. Recent research indicates that pregnant women exposed to high levels of fine particulate matter during their pregnancies are more likely to have children with autism. Particulate matter also reduces the clarity of the air. Depending on their chemical composition, airborne particles can harm ecosystems and damage manmade materials by contributing to acid deposition and high nutrient levels in water systems. Acidified particles adversely affect streams and forests, and high nutrient levels in waterways can lead to algae blooms, which, in turn, cause a variety of harms, such as depleted oxygen levels.<sup>8</sup>

Under legal authority granted by the Clean Air Act, the US Environmental Protection Agency has worked with state agencies for decades to reduce public exposure to unsafe levels of particulate matter. In successive waves of standard setting that started in 1971, the EPA has established and then revised the National Ambient Air Quality Standards (NAAQS) for particulate-matter standards. The first particulate-matter NAAQS was for "total suspended particulate matter," which applied to particles 25 to 45 micrometers in diameter. In 1987 the EPA revised the standard to focus on particles 10 micrometers in diameter or smaller. This "PM10" standard was supplemented in 1997 by the fine particulate "PM2.5" standards, which aim to protect public health and welfare against unsafe levels of particulate matter 2.5 micrometers in diameter or smaller. "Welfare" in this context means visibility, animals, vegetation, crops, and buildings. Particulate matter may be directly emitted or it may be formed in the atmosphere when other, precursor pollutants are transformed physically or chemically.<sup>9</sup>

The goal of the NAAQS program is that all Americans breathe healthy outdoor air. In an intensive, multi-year process the EPA has established and periodically revised the NAAQS, which by statute must provide an adequate margin of safety to the public from adverse health effects and protect public welfare against known or anticipated adverse effects. The EPA's emphasis on improving ambient (outdoor) air quality follows from the Clean Air Act's focus. The states submit implementation plans to the EPA showing how they will attain the standards. States can and do consider costs of control when they design their plans, and the states may choose which pollution sources to regulate.<sup>10</sup>

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This federal-state partnership, which aims to reduce the public's exposure to unhealthy levels of particulate matter, has yielded substantial progress. Average PM2.5 levels in 217 US counties between the periods 1979–1983 and 1999–2000 declined by 32 percent, increasing average life expectancy by an estimated 0.4 years. These improvements took place even as the nation's population and economy grew. When Roda's particulate-matter problems came to the Board's attention, all areas of Virginia complied with the EPA's PM10 and PM2.5 air-quality standards.<sup>11</sup>

Unfortunately, the fact of statewide compliance in 2008 with the particulate matter NAAQS did not mean that Mr. Willis and Mrs. Campbell were breathing safe levels of particulate matter when the coal trucks sped by their homes. In the first place, the air pollution that people breathe is a function of their daily routines, and no fixed air pollution monitoring equipment can capture that variation. Scientists have long known that personal exposures to air pollutants vary substantially from those measured by federal and state air-quality monitors, which are stationary and placed in locations where they will remain for years, measuring trends in local air quality and assessing compliance with the NAAQS.

Variations in personal exposure to air pollution can happen because of differences in personal habits or in where people live. For example, people who commute in cars often experience elevated levels of particulate-matter air pollution. People living near busy roads show higher rates of respiratory and cardiovascular illness because of elevated exposures to fine particulate matter and other air pollutants. Many people spend a large portion of their days indoors, and levels of particulate matter inside homes and workplaces (from smoking or where fuels are burned indoors) can be high.<sup>12</sup>

The gap between actual exposures and those measured by air-quality monitors goes beyond the variability inherent in everyday living habits. Monitors that measure whether air quality attains the NAAQS do not necessarily detect high air pollution exposures. For example, coal-fired power plants can cause locally elevated levels of sulfur dioxide. Sometimes those facilities must place special monitors nearby to measure the source's impact on nearby peak concentrations, as was the case with the Mirant facility in Alexandria. The Virginia DEQ is required to locate its permanent air quality monitors, those measuring compliance with the NAAQS, in accordance with the EPA's guidelines. The EPA emphasizes the importance of gauging exposure in high-population areas. However, the EPA's guidance allows for the possibility of monitoring near "hot spots" or monitoring for "special purposes."<sup>13</sup>

Improving air-quality trends and the expense of monitoring for PM2.5 also affect where air-quality monitors are placed. Declining levels of particulate matter have helped to bring areas into compliance with the NAAQS, even though the EPA has increased the stringency of the NAAQS for fine particulate matter. Cleaner air makes it difficult to justify expenditures for additional monitoring stations. The nation's monitoring network for PM2.5 costs an estimated \$50 million a year to operate. Such equipment is expensive to purchase and to maintain, and it's not easy to find public places for the monitors where they will be secure and represent local air quality.<sup>14</sup>

In Virginia the state Department of Environmental Quality gauges compliance with the National Ambient Air Quality Standards for particulate matter with approximately twenty monitoring sites around the state. Those monitors are concentrated in urban areas. The National Park Service operates particulate-matter monitors in Shenandoah National Park, and the City of Alexandria, in collaboration with the DEQ, maintains a particulate-matter monitor in Alexandria. The EPA considers those areas lacking monitors—and, thus, any data on particulate matter whatsoever—to be "attainment" (that is, meeting the NAAQS) or "unclassifiable."<sup>15</sup>

Because the DEQ locates its air-quality monitors in population-dense areas, air-quality problems in rural areas can be missed. In 2004, the DEQ and the Air Board knew that ozone levels exceeded the National Ambient Air Quality Standards in Shenandoah National Park only because the National Park Service had established its own monitors. Because of the state's emphasis on collecting data in urban areas, it was entirely possible that the dust thrown up by the coal trucks was creating a public health problem in Roda that had gone undetected by the closest DEQ monitor, which was 60 miles away, in Bristol. But that question could be settled only with local air-quality data gathered in Roda.<sup>16</sup>

#### Air Quality Typical of Industrializing Countries

In 2008 the Sierra Club and a local community organization, the Southern Appalachian Mountain Stewards, sponsored a study to document fugitive dust levels on Roda Road, directly in front of the Campbell and Willis homes. Dr. Viney Aneja, a professor at North Carolina State University in Raleigh, conducted the study. Two PM10 samplers collected data for two weeks in August 2008, with one sampler in Mrs. Campbell's front yard, not far from the entrance to the mines, and one sampler in Mr. Willis's yard, farther away from the surface mines. Dr. Aneja ensured proper quality



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control throughout the study and he collected the data in accordance with the EPA's reference methods.

Dr. Aneja's findings indicated that levels of PM10 on Roda Road regularly exceeded the EPA's 24-hour PM10 standard for air quality. Specifically, results for 16 of 24 sample days (twelve days for each sampler) on this four-mile stretch of road showed PM10 levels higher than the EPA's standard. Two samples exceeded the EPA's standard by three times. The EPA's 24-hour PM10 standard was exceeded 83 percent of the time at Mrs. Campbell's house and 50 percent of the time at Mr. Willis's house. Such high levels of particulate matter are unusual in the United States, where only a few parts of the country show measurements exceeding the EPA's 24-hour PM10 standard. Dr. Aneja said that, in almost forty years of conducting research on air quality, he had never seen such elevated measurements, which he compared with levels found in industrializing nations. Levels of particulate matter in Roda fell to acceptable levels on the weekends, when the coal trucks were not on the road. Dr. Aneja's results were published in a well-regarded scientific journal.<sup>17</sup>



**Figure 3.3**  
Viney Aneja (center) and his monitoring team in Roda (photo courtesy of Viney Aneja).

Dr. Aneja reported his results to the Air Board in April 2009. His results hinted at the possibility of an extensive problem with truck-related fugitive dust in Appalachian communities near surface mines. The fact that levels of particulate matter were lower farther away from the mine suggested a connection with truck travel. A group of residents from Roda and nearby areas traveled almost 400 miles to Richmond to plead with the Board for appropriate regulatory action. On a unanimous vote the Board directed DEQ staffers to gather monitoring data in Roda and to take measures to address the excessive levels of particulate matter. The Board solicited health assessments from the Virginia Department of Health and from the federal Agency for Toxic Substances and Disease Registry (ATSDR).<sup>18</sup>

Soon after the Board's April 2009 meeting, two mining companies, Cumberland Resources and A & G Coal Company, instituted voluntarily in Roda a number of straightforward, low-tech dust-control measures, such as washing trucks before they left the mine sites, paving mine access roads, sweeping roads clear of dust, and adding gravel to an access road. DEQ staffers undertook an air monitoring study in Roda in the summer of 2009.<sup>19</sup>

The DEQ's air monitoring study showed substantially lower dust levels after institution of the dust-control measures, with only one reading above the EPA's PM-10 standard for air quality. DEQ staffers criticized Dr. Aneja's work, saying he had mistakenly included particulates larger than PM-10 in his analysis. However, Dr. Aneja put these concerns to rest because he had relied on the EPA's approved monitoring and analysis methods for measuring PM10. Further, Dr. Aneja found errors in the DEQ's analysis of his data. Specifically, the DEQ relied on light microscopy, which is not an approved method for determining the diameter of fine particles. DEQ staffers had mistaken agglomerations of small particles for individual large particles.<sup>20</sup>

DEQ staffers attributed the high levels of particulate matter observed in Roda to the lack of adequate drainage on the road, thereby implying that the coal company trucks were not to blame. But the results of monitoring conducted before and after the companies instituted dust controls pointed in another direction. The conclusion seemed inescapable: the mine operators' voluntary dust-control measures were reducing levels of fine particulate matter in Roda.<sup>21</sup>

Despite the success of the control measures in reducing the levels of particulate matter in Roda, there was no guarantee the companies would maintain these voluntary measures or that truck traffic would diminish in the future. Furthermore, it was possible that similar problems were occurring in other communities near Virginia's surface mines. In November 2009, Southern Appalachian Mountain Stewards and the Sierra Club petitioned

the Board to establish fugitive dust regulations that would require mine operators to use "reasonable precautions to prevent particulate matter from becoming airborne." The petition listed the low technology actions that might constitute "reasonable precautions," such as washing and covering coal trucks and watering roads to reduce dust. The coal mining companies that had adopted these kinds of controls in Roda never indicated to the Board that the measures were especially costly. According to the petition, the DEQ and the Board were the appropriate regulatory entities, not the Department of Mines, Minerals and Energy (DMME).<sup>22</sup>

However, the DEQ preferred that DMME oversee remedies for Roda's dust problems. DEQ managers and staffers protested that they did not have the resources to develop a statewide regulation or to oversee the permitting process. DEQ staffers said that the regional air-quality monitors indicated good regional air quality that complied with the EPA's NAAQS and that Dr. Aneja's short-term study could not be used to classify an area as out of compliance with the NAAQS for particulate matter. A draft Memorandum of Agreement presented to the Board in November 2009 aimed to cede to DMME all responsibility for regulating mine-related fugitive dust, even though DMME showed no inclination to set forth restrictions at the Roda mines or anywhere else in southwest Virginia.

Several Board members felt it was the Air Board's responsibility to ensure that, in Roda and in Virginia's other coal mining communities, residents were protected from experiencing the extraordinarily high levels of particulate matter documented in Roda. The Board asked for advice on legal authority to develop a regulation that would ensure widespread adoption of the modest measures that Roda's coal mining companies had adopted voluntarily. The Board also requested that DMME expedite changes to the Roda mine permits to ensure that the voluntary dust-control measures stayed in place permanently.<sup>23</sup>

Federal and state public health experts weighed in with their assessments. The federal Agency for Toxic Substances and Disease Registry (ATSDR) reported on the potential health impacts of the levels of particulate matter that Dr. Aneja had measured. The Agency relayed its report to the DEQ's Director and the DEQ's southwest Virginia regional staff in March 2010. In understated fashion, the ATSDR concluded that the exposures reported were "likely to be of health concern, especially for sensitive individuals," assuming that "an important portion" of the PM10 monitored consisted of PM2.5. The report recommended that government authorities continue to implement measures to reduce the levels of particulate matter on the road passing by the Campbell and Willis homes.<sup>24</sup>

At the Board's March 2010 meeting two health officials offered opinions on the dust problem in Roda. ATSDR representative Lora Siegmann Werner summarized her agency's report. She emphasized the potential public health risks of the levels Dr. Aneja had documented and emphasized that the DEQ's existing air-quality monitoring network for assessing NAAQS compliance would not detect localized air-quality problems. Dwight Flammia, a Virginia Department of Health official, used simple but reasonable methods to infer PM2.5 levels from the PM10 air-quality data Dr. Aneja had collected. Mr. Flammia concluded that the EPA's 24-hour PM2.5 standard was exceeded in Roda in 2008 and 2009, with the highest monitored level exceeding the EPA's standard by almost three times.<sup>25</sup>

The Board decided to vote on the Sierra Club's petition in June 2010. Since the Board's numbers had increased to seven in 2008, scheduling meetings had become more complicated, especially since one member insisted he could meet only on Fridays. In the end Bruce Buckheit could not attend the June meeting. A tie vote on the Sierra Club's petition meant that the DEQ would not adopt regulations to ensure control of particular-matter levels near coal mines in Roda and elsewhere around Virginia.

### "Them That's Got Shall Get, Them That's Not Shall Lose"

The June 2010 Board meeting was my last, since my term expired at the end of the month. At that meeting I felt much sympathy for the Roda residents who had once again spent a day driving to Richmond to plead their case. I was especially concerned over the potential health impacts of fugitive dust in Virginia's Appalachian communities generally, where the population already suffers from a host of illnesses. Billie Holiday's famous song "God Bless the Child" echoed in my head: "The strong gets more, while the weak ones fade."<sup>26</sup>

As far as I know, no General Assembly members or high-level gubernatorial counselors expressed concern over the air-quality problems on Roda Road. Had the Air Board voted in favor of establishing statewide fugitive dust regulations for truck traffic associated with surface coal mining operations, perhaps we would have drawn the attention of southwest Virginia's local politicians and Governor Robert McDonnell. Coal companies or their chief executives were among Governor McDonnell's steadfast campaign donors. Just four companies and two coal company executives gave Mr. McDonnell amounts totaling \$1.3 million for his various statewide campaigns.<sup>27</sup>

The citizens of Roda who were breathing unacceptable levels of coal dust seemed to have little political voice or influence. No politician testified or

wrote on their behalf, in stark contrast to the consistent and strong involvement of state and local politicians in Wise and Alexandria. The DEQ's management refused to undertake analysis or entertain regulatory action, no matter how modest, that would have guaranteed relief from the unacceptably high PM10 levels experienced by Mrs. Campbell, Mr. Willis, and their neighbors on Roda Road.

DEQ managers pointed to their scarce resources as a prime reason for not undertaking regulatory action or further analysis. According to former DEQ Director Robert Burnley, the DEQ is constantly overworked and underfinanced. But a state air-pollution-control agency suffering from a shortfall in resources can turn to others for advice and counsel. Excessive fugitive dust is not unique to Virginia. DEQ managers might have directed that staffers examine rules in other states that might serve as a model or consult with the US EPA's experts on fugitive dust regulations. I do not recall that the EPA's regional staff members in Philadelphia were consulted on the subject of Roda's air-quality problems. The EPA's regional offices are the Agency's points of contact for the states, and they assist with grants and program oversight, among other responsibilities.<sup>28</sup>

For example, in undertaking the research for this book, I found that Arizona air-pollution-control officials worked with the EPA's regional staff on a similar kind of problem. Western Pinal County, Arizona, has had high levels of particulate matter because of fugitive dust. After undertaking a multi-year monitoring study, EPA officials declared the area "nonattainment" in 2010 for the PM10 and the PM 2.5 National Ambient Air Quality Standards. The EPA's regulatory actions set in motion a state responsibility to implement control measures to protect public health and welfare from excessive exposure to particulate matter.<sup>29</sup>

By contrast, Roda's residents had no guarantee that the high, unhealthy particulate-matter levels they had breathed would be abated over the long term. The DEQ's responses were resistance to regulatory action, a willingness to hand over responsibility to the Department of Mines, Minerals and Energy, which had ignored the Roda residents' complaints for years, and skepticism over the results of Dr. Aneja's study. It was not only that members of the DEQ's monitoring staff refused to believe Dr. Aneja's results. They also said that, because his monitors were not sited in the required fashion and because his data were short-term, his study could not be used to indicate nonattainment with the NAAQS for fine particulate matter.

This latter claim is narrowly true, because the EPA requires three years of monitoring data from particular kinds of sites to determine whether an area attains the NAAQS. But a stubborn refusal to use Dr. Aneja's data showed

little willingness to shine an investigative light outside the confines of the state's existing monitoring network, despite indications of serious air-quality problems in areas lacking permanent monitors.

That levels of fine particulate matter can be unexpectedly high in areas with relatively low populations is confirmed by the EPA's list of "design values" for levels of fine particulate matter. Design values are the air-quality concentrations the EPA uses to determine whether a particular area attains the National Ambient Air Quality Standards. At the time the Board was considering air pollution in Roda, Bristol, a small city of approximately 44,000 located only 60 miles from Roda, showed higher concentrations for fine particulate matter than Fairfax County, which has 1.1 million residents and is located in the Washington metropolitan area.<sup>30</sup>

In 2011, when I was no longer a member of the Air Pollution Control Board, the Board agreed that the DEQ should issue a guidance document that would transfer to DMME the responsibility for overseeing fugitive dust resulting from mining activities. But under Virginia law the Air Pollution Control Board, not DMME, is responsible for protecting public health and welfare from air pollution. There is no indication in DMME's statutory charge that the Department can or should write air pollution regulations into the permits issued to mining companies. A cynical observer might interpret the DEQ's insistence on transferring responsibility as tantamount to sweeping dust under the rug: out of sight, out of mind.<sup>31</sup>

Advocates of environmental justice often focus on the unequal protections afforded to minority communities. But environmental injustice also happens when policy makers slight the concerns and pollution exposures of those of modest means. The scholar Edwardo Rhodes defines environmental justice as "the fair treatment of all races, cultures, incomes, and educational levels with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." Rhodes says "fair treatment implies that no population of people should be forced to shoulder a disproportionate share of the negative environmental impacts of pollution or environmental hazards due to lack of political or economic strength." In his definition, which echoes that used by the US Environmental Protection Agency, Rhodes combines an outcomes-based test with a process-based test in gauging whether a community has been treated justly.<sup>32</sup>

Other leading environmental justice scholars agree that allowing room for citizen voice in policy-making processes is just as important as accomplishing fair public health and environmental outcomes. Kristin Shrader-Frechette is a leading proponent of procedural justice that ensures that vulnerable communities can give "free, informed consent" to



polluting facilities. Shrader-Frechette's goal is hard to achieve. The barriers to meaningful citizen participation in the making of environmental policy include coded technical language that is difficult to penetrate and camouflages important uncertainties. Ordinary citizens routinely encounter institutional resistance to the credence of their observations—even in affluent urban areas, such as Alexandria, where community members have resources and can buy expertise. In Alexandria, DEQ staffers repeatedly downplayed citizen concerns over visible emissions from the Mirant power plants, and those same staff members sometimes employed opaque terminology. Other research on environmental justice in Appalachian coal communities highlights the special difficulty of ensuring procedural justice where residents can be marginalized because of their socioeconomic status and educational background.<sup>33</sup>

"Fair" treatment does not imply that all people should experience the same environmental outcomes but, rather, that no one should carry the burden of disproportionate impacts because s/he lacks political power. But in the case of the Clean Air Act's National Ambient Air Quality Standards,



**Figure 3.4** Citizens' plea to Governor Tim Kaine (photo courtesy of Aaron Isherwood; photographer unknown). (Stonega is close to Roda Road.)

fair treatment means that all Americans should breathe air that attains those standards, because that is the act's statutory goal. Fair treatment also implies empowering communities with the procedural tools that give them full access to, and legitimacy in, policy making. Roda's residents complained for years to the Department of Mine, Minerals and Energy before their concerns came before the Air Board. Roda's coal mining companies changed their practices only after environmental groups sponsored Dr. Aneja's monitoring study and only after those data came before the Air Board.

There has been no real closure or lasting environmental justice for Roda's residents. It would be natural for them to worry about whether they will suffer again from unsafe levels of particulate matter stirred up by coal trucks and then have state air pollution policy makers write off their concerns as fabricated or insufficiently documented. Chapter 2 describes Southwest Virginia's problems with poverty and poor health outcomes. Unsafe air quality would contribute to a "triple jeopardy for health" that, in one scholar's words, "means that consequences are all the more severe and accumulative for some people than others." African Americans living in the coal mining areas of Kentucky, Virginia and West Virginia show even worse health and poverty than their White counterparts.<sup>34</sup>

Residents of coal mining areas in Virginia and elsewhere have borne economic and health burdens so that Americans could build prosperous lives based on electricity fueled by coal. Even as the United States turns away from coal and toward other sources of energy, we should not forget what the people of Appalachia have given us. We should remedy democratic institutions that, to paraphrase scholar John Gaventa, work reliably at the top but not at the bottom. The reforms suggested in chapter 7 return to this topic.<sup>35</sup>