

# spotlight

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## THE CLEAN SMOKESTACKS BILL: A RETROSPECTIVE

**KEY FACTS:** • In 2002 the State of North Carolina passed what was officially titled “Improve Air Quality/Electric Utilities,” which became better known as the Clean Smokestacks Bill (CSB).

- When the CSB was passed in 2002, it was estimated to cost \$2.3 billion.
- In 2009 the CSB’s explicit costs were projected to be over \$3.2 billion. That figure doesn’t include other costs brought about by the legislation, such as Progress Energy’s CSB-influenced decision to convert two coal-fired power plants to natural-gas facilities, or the higher electricity rates consumers will face as a consequence.
- As for benefits, while in 2005 the NC Department of Environment and Natural Resources (DENR) began to credit the CSB in part for reductions in high ozone days in NC, DENR later acknowledged that there are no studies linking observed “declines” in smog levels to CSB regulations.
- Rigorous analysis would hone in on what ozone levels in the state would have been if CSB were not in place. DENR has not done that.
- If the CSB were working in the way that DENR press releases suggest, then there should be an observable improvement in NC’s air-quality performance relative to its neighbors’ in the years after 2005 as compared with the years prior to 2005.
- The data show no difference in NC’s air-quality performance in the five years before (2000-04) the CSB was presumably having an impact and the five years since (2005-09).

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**I**n 2002 the State of North Carolina passed what was officially titled “Improve Air Quality/Electric Utilities,” which became better known as the Clean Smokestacks Bill (CSB). The legislation required that Duke Power and Progress Energy (Carolina Power and Light, at the time) make dramatic reductions in emissions of Nitrogen Oxide (NOx) and Sulfur Dioxide (SO<sub>2</sub>) by installing expensive scrubbers on the smokestacks of the 14 coal-fired power plants across North Carolina.

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The original estimate of the cost of implementing the regulations was \$2.3 billion, and as the title of the legislation states, its purpose was to “improve air quality.” As noted, the CSB regulations are very stringent. None of North Carolina’s neighbors have enacted similar legislation.

The CSB started out as model legislation written and pushed by Environmental Defense (ED), a leftwing environmental pressure group.<sup>1</sup> In 2000 and 2001 ED was shopping its legislation around to many states, but North Carolina, under the administration of the new governor, Mike Easley, was the only state to show interest. Ultimately, the bill was passed by an overwhelming majority of both parties, substantively unchanged from the original model legislation pushed by ED.

As was noted in a series of John Locke Foundation policy studies and *Carolina Journal* reports, the supporters of the bill, which included environmental groups as well as the power companies<sup>2</sup> to be regulated, made extravagant claims regarding the environmental benefits of the legislation.<sup>3</sup> No supporters of the legislation — neither the state Department of Environment and Natural Resources (DENR), the legislature, nor even the advocacy group — ever produced any rigorous studies quantifying what those benefits would be in terms of either improved air quality or improved health outcomes.

In fact, emails between Duke Power, a major supporter of the bill, and North Carolina’s Division of Air Quality that were uncovered by a *Carolina Journal* investigative report at the time revealed that even the bill’s supporters knew there was no evidence to support the claims that they were making.<sup>4</sup>

### **What’s happening to costs?**

A completely unreported story since the passage of the CSB has been the explosion in its costs. The initial cost estimate by ED, when the environmental group first presented the bill in 2001, was under \$450 million.<sup>5</sup> By the time it was passed in 2002, the cost had, according to estimates by Duke Power and Progress Energy, skyrocketed to \$2.3 billion. As of June 2009, according to the most recent annual report to DENR on the status of the CSB,

Progress Energy’s [expected] cost of \$1.402 billion is \$589 million or 72% higher than the original 2002 cost estimate of \$813 million. ... Duke Energy’s [expected] cost estimate of \$1.827 billion is \$327 million or 22% higher than the original 2002 cost estimate of \$1.5 billion.<sup>6</sup>

In other words, the explicit costs of the CSB are now projected to be over \$3.2 billion.

That number still does not reflect the total costs of the legislation, which may be significantly higher than even those revised estimates. Progress Energy has announced that rather than incurring the expense of meeting the CSB requirements for two of its coal-fired facilities, it would convert plants in Wayne County and New Hanover County to natural gas.<sup>7</sup> Progress estimates that the costs of converting those two plants will be \$1.5 billion. Those costs are not reportable as costs of complying with the CSB, even though newspaper reports suggest that the two plants are being converted to avoid complying with CSB regulations, which are only relevant to coal-fired plants.

Those plant-conversion costs will be part of upcoming rate hearings for Progress and will likely be translated into higher utility bills for consumers. That is not the only bad news for consumers, because in 2008 the costs of generating electricity from natural gas were about three times greater than the costs of generating electricity from coal.<sup>8</sup> What that means is that going forward, electricity rates will be higher owing to more electricity generation from natural gas and less from coal. These higher costs should also be attributed to the Clean Smokestacks Bill.

### **Is the CSB making a difference?**

In 2005 press releases from DENR began to suggest that improvements in air quality across the state, particularly when the state was experiencing reductions in the number of high ozone days, were in part attributable to the CSB

### Annual Change in High Ozone Monitor Readings: Five-State Median vs. North Carolina

(Georgia, North Carolina, South Carolina, Tennessee, and Virginia)

	<i>(before the CSB's presumed effects)</i>						<i>(after the CSB's presumed effects)</i>				
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<i>Five-State Median</i>	—	-38%	-20%	80%	-71%	-35%	90%	-4%	-5%	-61%	-93%
<i>North Carolina</i>	—	-38%	-14%	84%	-71%	-66%	233%	-48%	128%	-61%	-93%

### Annual High Ozone Monitor Readings and Percentage Change from the Previous Year

	<i>(before the CSB's presumed effects)</i>						<i>(after the CSB's presumed effects)</i>				
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<i>Georgia</i>	751	512	239	388	142	122	227	292	262	101	28
		-32%	-53%	62%	-63%	-14%	-86%	29%	-10%	-61%	-72%
<i>North Carolina</i>	1343	836	715	1315	375	129	429	221	503	197	13
		-38%	-14%	84%	-71%	-66%	233%	-48%	128%	-61%	-93%
<i>South Carolina</i>	494	316	253	455	82	69	130	96	85	65	0
		-36%	-20%	80%	-82%	-16%	88%	-26%	-11%	-24%	-100%
<i>Tennessee</i>	1143	672	387	702	214	77	274	262	425	104	12
		-41%	-42%	81%	-70%	-64%	256%	-4%	62%	-76%	-88%
<i>Virginia</i>	671	195	338	606	168	110	209	205	194	126	4
		-71%	73%	79%	-72%	-35%	90%	-2%	-5%	-35%	-97%

Sources: Ozone monitor data provided by EPA and individual states.

regulations. For example, a DENR press release dated October 3, 2005, following a particularly good ozone season, declared

The decline in high ozone days goes hand-in-hand with ... The Clean Smokestacks Act, adopted by the legislature and signed by Governor Mike Easley in 2002. ... DAQ data show that power plant emissions are declining significantly from new controls being installed.<sup>9</sup>

Recently, after NC experienced only 11 Code Orange monitor readings for the entire 2009 season, the DAQ stated that “contributing to the decline in high ozone days are ... actions to reduce ozone forming emissions from power plants. ... These measures include the NC Clean Smokestacks Act ....”<sup>10</sup>

None of those press releases cited evidence that would allow the Division of Air Quality to attribute the reduction or change in the number of high ozone monitor readings to the CSB regulations. In other words, the DAQ simply asserted the relationship. In fact, in response to our inquiries, DENR has acknowledged that there are no studies linking observed “declines” in smog levels to CSB regulations.<sup>11</sup>

Ultimately, if DENR is going to continue making such claims, they need to support it with evidence and analysis. The mere fact that North Carolina experiences a particularly good ozone season or a reduction in high ozone monitor readings from a previous year is not supporting evidence. That is because so many variables can affect ozone — weather, temperatures, amounts of rainfall, number of cloudy days vs. number of sunny days, etc., in addition to emissions of ozone-forming pollutants. Fundamentally, a truly rigorous analysis would attempt to abstract from these variables, honing in on what the ozone levels in the state would have been if CSB were not in place. DENR should also perform

similar analysis with respect to particulate matter, the other pollutant that was supposed to be reduced by the CSB regulations

Given that rigorous analysis remains to be performed, we can at least get sense of whether the claims being made in the DENR press releases have merit. In its press releases DENR refers to “declines in high ozone days” as being partially attributed to the CSB. In other words DENR is attributing year-to-year changes in ozone to the CSB regulations. If indeed North Carolina is experiencing better year-to-year changes in ozone than it would in the absence of the CSB, then that effect should be reflected in cross-state comparisons before and after the CSB began to have an effect, which according to press releases was during the 2005 ozone season.<sup>12</sup> As the only state with CSB regulations, North Carolina should be doing relatively better in comparisons with neighboring Virginia, South Carolina, Tennessee, and Georgia, beginning in 2005 than prior to 2005.

We have examined year-to-year percentage changes in the number of high ozone monitor readings — using the current standard of .075 parts per million — in North Carolina and each of its bordering states from 2000 to 2009. North Carolina is said to do better than its neighboring states when either it experiences a greater percentage decline or a smaller percentage increase in the number of high ozone days when compared to its neighbors. If the CSB is working in the way that the press releases suggest then there should be an observable improvement in NC’s performance relative to its neighbors in the years after 2005 as compared to the years prior to 2005.

The data (see the table) show no difference in NC’s air-quality performance relative to neighboring states’ between the first five-year period and the second five-year period, when the CSB was presumably having an impact. From 2005 to 2009 North Carolina’s year over year improvement rate was at the median for two years, worse than the median for two years and better than the median for one year. This is exactly the same as it was during the previous 5 years (2000-04). Using this measure it appears that DENR’s claims are not validated.

## Conclusion

In 2002 the passage of CSB was hailed as a great achievement for air quality in North Carolina. But as with so many other government programs, it is not living up to expectations. CSB’s total costs to North Carolina’s economy are significantly greater than originally predicted. That is especially true when implicit costs, such as those being incurred by Progress Energy to switch from coal to natural gas, are included.

While the costs of the legislation are much greater than anticipated, its benefits are not obvious when comparing North Carolina to its neighboring states, despite the fact that year after year the DENR public relations machine goes out of its way to attribute improving air quality conditions to the CSB. If DENR is going to continue making such claims, then it is incumbent upon the agency to prove its assertions with rigorous analysis. It has not done so.

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## End Notes

1. See Paul Chesser’s “Smokestacks Built on Dubious Data: Environmental Defense Wrote Questionably Sourced Plan,” *Carolina Journal*, March, 2005, [http://www.carolinajournal.com/exclusives/display\\_exclusive.html?id=2262](http://www.carolinajournal.com/exclusives/display_exclusive.html?id=2262).
2. For an explanation see, Paul Chesser “Smokestacks Bill Helped Utilities,” *Carolina Journal*, March 7, 2005, [http://www.carolinajournal.com/exclusives/display\\_exclusive.html?id=2259](http://www.carolinajournal.com/exclusives/display_exclusive.html?id=2259). Also see Roy Cordato, “Bootleggers, Baptists, and the Clean Smokestacks Bill,” *Carolina Beat* No. 821, April 2005, [http://www.carolinajournal.com/articles/display\\_story.html?id=2379](http://www.carolinajournal.com/articles/display_story.html?id=2379).
3. *Op. cit.*, note 1.
4. Paul Chesser, “Duke Doubted Smokestacks Merits,” *Carolina Journal*, March 9, 2005, [http://www.carolinajournal.com/exclusives/display\\_exclusive.html?id=2265](http://www.carolinajournal.com/exclusives/display_exclusive.html?id=2265).
5. *Op. cit.*, note 2.

6. Implementation of the "Clean Smokestacks Act": A Report to the Environmental Review Commission and the Joint Legislative Review Commission, Submitted by the North Carolina Department of Environment and Natural Resources and the North Carolina Utilities Commission, June 1, 2009, p. 11.
7. Frank Vinluan, "Conversion of plants to gas to cost \$1.5B, says Progress," *Triangle Business Journal*, January 29, 2010.
8. The Nuclear Energy Institute, Resources and Stats, <http://www.nei.org/resourcesandstats/documentlibrary/reliableandaffordableenergy/graphicsandcharts/uselectricityproductioncostsandcomponents>.
9. North Carolina Department of Environment and Natural Resources (DENR) press release, "High Ozone Days Decline as Emissions Drop," Oct. 3, 2005, [http://daq.state.nc.us/news/pr/2005/ozone\\_wrap\\_10032005.shtml](http://daq.state.nc.us/news/pr/2005/ozone_wrap_10032005.shtml).
10. DENR press release, "Lowest Ozone Levels on Record This Year," Oct. 5, 2009, [http://daq.state.nc.us/news/pr/2009/ozone\\_wrapup\\_10052009.shtml](http://daq.state.nc.us/news/pr/2009/ozone_wrapup_10052009.shtml).
11. E-mail from Tom Mather, DENR Division of Air Quality, Public Information Officer, February 25, 2010.
12. It would not make sense to compare ozone monitor readings in North Carolina with those of its neighbors, Virginia, South Carolina, Tennessee, and Georgia, none of which have similar legislation. It is clear from the raw ozone data that, in terms of the number of high ozone days in a given year, North Carolina and its neighbors tend to move in tandem. When North Carolina has a good or bad year, so do surrounding states. Ultimately, direct comparisons of the total number of high ozone monitor readings do not tell us much. Different states have different numbers of monitors, and the more monitors in a state, the greater the opportunity of catching ozone problems that do exist. States with greater numbers of monitors are likely to show a greater number of high ozone monitor readings. Also, states that have larger cities with more traffic congestion are also more likely to register a greater number of high ozone monitor readings.