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The Limits of Devolution in Environmental Law: A Comparison of Regional and Statewide Ambient Air Quality Planning in the United States and Germany

Thomas Julian Page†

[The United States Constitution] was framed upon the theory that the peoples of the several states must sink or swim together, and that in the long run prosperity and salvation are in union and not division.

—Justice Benjamin Nathan Cardozo

A New Federalism has entered political and legal discourse in the United States. According to the New Federalism, the federal government should place the responsibility for designing and executing many government programs squarely in the hands of the states. This New Federalism has already begun to reshape the relationship between the federal and state governments. This New Federalism does not constitute the brief of a particular political party, but has been espoused, in different ways, by President Clinton, the House of Representatives, and the Senate.

In the area of environmental law, the thrust of the New Federalism is no less perceptible. Although states currently

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2 The term "New Federalism" has its origin in the policies of the Nixon and Reagan Administrations, which under that slogan attempted to reverse the trend of governmental centralization and to return some powers to the states. See David B. Walker, The Advent of an Ambiguous Federalism and the Emergence of New Federalism III, 56 Pub Admin Rev 271 (1996).


5 Robert R. Kuehn, The Limits of Devolving Enforcement of Federal Environmental Laws, 70 Tulane L Rev 2373, 2374 (1996) ("What is new in the most recent federalism controversy is how widespread the sentiment is for devolving environmental enforcement
share the power to develop and implement clean air law with the federal government in Washington, the New Federalists argue that the balance of power currently tips too heavily towards the federal government at the expense of the states.

In making such claims, however, the New Federalists may be overly optimistic about states' ability to engage in regional ambient air quality planning—an important part of clean air law necessary to avoid cross-jurisdictional externalities and other special difficulties associated with air pollution. It is important to understand the limits of devolution: the points at which a "race-to-the-bottom" would cause the states to neglect statewide or regional air pollution planning. A "race-to-the-bottom" in regional air quality planning preceded and eventually led to the passage of the Clean Air Act of 1963, the Air Quality Act of 1967, and the Clean Air Act of 1970. However, that historical "race-to-the-bottom" tells us little about the proper balance of powers between the states and federal government with regard to regional ambient air quality planning: not only was there little significant federal effort to engage in regional ambient air quality planning at that time, but regional ambient air quality planning did not yet exist for all practical purposes.

To determine the proper balance of powers and responsibilities between the states and the federal government, therefore, we must turn elsewhere for guidance. Comparative law provides one source of information. Other countries have comparable federal systems in which the law divides differently the responsibility for regional air quality planning between the states and the federal government. The Federal Republic of Germany might be taken as a benchmark for comparison, though it has received little attention in the United States. In Germany, the federal government

powers from the federal government to the States and how dramatically the current proposals would reduce the federal role.

See Part II.


See, for example, Robert V. Percival, Environmental Federalism: Historical Roots and Contemporary Models, 54 Md L Rev 1141, 1160-61 (1995); John P. Dwyer, The Practice of Federalism Under the Clean Air Act, 54 Md L Rev 1183, 1190-91 (1995). The exception was the abortive attempt at regional ambient air quality planning between the states without a federal presence, discussed in Part III.A.4.

Studies explicitly touching on the subject in the American legal literature include:
leaves regional planning with respect to air pollution to the discretion of the states. By comparing the American and German experiences, we can better assess the strengths and weaknesses of the different possible ways to divide air quality regulatory powers among states and the federal government.

This Comment begins in Part I by discussing the need for regional planning to address the problem of ambient air pollution. In Part II, the Comment describes the clean air and administrative laws of the United States and Germany, as those laws bear upon the matter of statewide or regional ambient air pollution planning. The Comment then goes on in Part III to describe the problems of federalism that arise in the United States and Germany with respect to statewide and regional ambient air pollution planning. Finally, in Part IV, the Comment suggests lessons to be learned from the American and German experiences, presenting a paradigm for thinking about the proper division of powers and responsibilities between federal and state governments for ensuring that such planning occurs.

Ultimately this Comment concludes that it would be difficult to come up with better alternatives to the existing federal structure for regional ambient air quality planning in the United States. Imperfect as it is, the Clean Air Act may best serve the goals of federalism in the regulation of regionally significant ambient air pollution. If regional air quality planning is to occur within a federalist framework, it must occur within a framework combining statewide air quality planning, federal coordination between the several states, and federal supervision and enforcement and judicial review. The Clean Air Act provides such a framework.

I. THE NEED FOR REGIONAL PLANNING

The importance of regional planning in combatting air pollution often gets lost in the broader debate about clean air law and policy. A federalist system requires regional ambient air quality planning to deal effectively with the problem of ambient air quality. The mobility of air pollution, its cumulative effects, the mo-

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Susan Rose-Ackerman, *Controlling Environmental Policy: the Limits of Public Law in Germany and the United States* 115 (Yale 1995); David P. Currie, *Air Pollution Control in West Germany*, 49 U Chi L Rev 355, 374-80 (1982).

13 See Part II.

14 See Part II.
bility of polluters, and the dangers of uniformity demand such an approach.

A. The Mobility of Air Pollution

Policymakers must find ways to deal with cross-jurisdictional externalities. "The distribution of causes and effects over space does not respect political boundaries." Thus, a state with strict, rigorously enforced controls on sulfur dioxide emissions may find, nevertheless, that sulfur dioxide levels remain high, due to the lack of controls in neighboring states. In one way or another, the air pollution policies of states must be coordinated.

B. The Cumulative Effects of Air Pollution

"Air pollution" should not be thought of as a series of particular pollutants with identical and invariable consequences. Rather, air pollution has many components and leads to different problems in diverse geographic locations. A comprehensive approach is needed, because a legal regime that regulates each pollutant in isolation cannot effectively address the problem of maintaining total air quality in a particular geographical area.

C. The Mobility of Polluters

Regional ambient air quality planning is a necessary consequence of capital mobility. A series of excessively localized standards allows polluters to threaten governments with relocation if such localities do not relax pollution standards. This, in turn, triggers a "race-to-the-bottom" in which localities compete against each other for businesses by relaxing costly laws and regulations. Excessive devolution of responsibilities for maintaining clean air allows localities greater opportunities for such competition. Therefore, regions must be sufficiently large and have standards comparable enough to minimize the risk that the mobility of polluters entails. Moreover, there must be minimum national standards to prevent regions from engaging in mutually destructive competition.

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15 Susan Rose-Ackerman, *Controlling Environmental Policy: the Limits of Public Law in Germany and the United States* 38 (Yale 1995) ("Controlling Environmental Policy").
16 Id.
17 Id.
18 See, for example, Robert R. Kuehn, *The Limits of Devolving Enforcement of Federal Environmental Laws*, Tulane L Rev 2373, 2376-2377 (1996); Rose-Ackerman, *Controlling*
D. The Danger of Uniformity

While large regions and similar standards are necessary for effective regional planning, these characteristics, if taken too far, can deprive regional air quality planning of its value. Two considerations support a geographically specific approach to regional ambient air quality planning. First, a geographically specific approach fits the geographically various nature of the problem. It would be a mistake to hold every geographic area to the same, uniform standards of air quality. For example, the low standards that apply to rustbelt cities should not apply to the pristine wilderness areas of Alaska. The harm air pollution causes is a function of a number of different, geographically specific factors, including "natural resource endowments, degrees of development, human attitudes, and the size and nature of the population of any particular area."

Second, regional ambient air quality planning may allow regions to function as "laboratories" for developing innovative approaches to geographically specific air pollution problems. This is especially likely to occur when regions have substantial discretion to develop their own air quality plans. Without regional innovation clean air law would suffer from excessively rigid uniformity, imposed without the advantage of an intimate familiarity with regional conditions.

Thus, the competing considerations of effective air quality planning and geographic specificity dictate a compromise between localized and broad-based regional air quality planning.

*Environmental Policy* 40-42 (cited in note 15). Note that polluters can still relocate to foreign countries, suggesting the need for international agreements to deal with mobile polluters.

19 James E. Krier, *On the Topology of Uniform Environmental Standards in a Federal System—and Why It Matters*, 54 Md L Rev 1226, 1228 (1995). Taken to an extreme, of course, the foregoing observation leads to an absurd conclusion: virtually no regional ambient air quality planning is desirable, because significant variations will exist in any given region except for the very smallest. But this position is impractical. Undeniably, any regional air quality plan almost inevitably disregards highly localized variations in the interests of providing a generalized, acceptable level of ambient air quality across an entire region. But if governments take a flexible, regionally-specific approach to maintaining ambient air quality, the compromise between uniformity and regional variation is, on balance, a palatable one, especially in view of the other advantages of regional air quality planning.

20 See, for example, John P. Dwyer, *The Practice of Federalism Under the Clean Air Act*, 54 Md L Rev 1183, 1223 (1995) (arguing that national requirements and state discretion in implementing those requirements together lead to the functioning of states as "laboratories").
II. THE LEGAL FRAMEWORK FOR STATEWIDE OR REGIONAL AIR QUALITY PLANNING IN THE UNITED STATES AND GERMANY

Both the United States and Germany have federal systems, in which the federal government and the several states possess their own respective legislative, executive, and judicial institutions. Regional air quality planning in the United States and Germany functions within these federal systems. The American and German experiences with regional air quality planning are comparable because of the federal nature of their air quality regimes, and because the countries themselves possess many common characteristics: federal, representative-democratic systems of government and market-oriented, post-industrial economies. Given these similarities, examining the different approaches to regional air quality planning adopted by the United States and Germany can provide valuable insight into the kinds of measures that perform well in a federal system.

A. Statewide Ambient Air Quality Planning in the United States Under the Clean Air Act

1. The tripartite structure of the Clean Air Act: states, EPA, citizens.

In the United States, the Clean Air Act creates a system of statewide air quality plans. Under the terms of the statute, the United States Environmental Protection Agency ("EPA") sets National Ambient Air Quality Standards ("NAAQS")—maximum levels for total emissions of specific pollutants. The states then may create their own statewide air quality plans—called State Implementation Plans ("SIPs")—to implement the NAAQS.

The EPA, in turn, must determine whether the SIPs fulfill the requirements of the Clean Air Act. In the event of rejection, the EPA itself becomes responsible for promulgating statewide air quality plans—called Federal Implementation Plans ("FIPs")—for the states in question.

The Clean Air Act also provides numerous administrative sanctions that the EPA can apply against states that fail to submit or enforce SIPs. If states fail either to submit or enforce SIPs

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21 42 USC § 7401 et seq (1994).
22 42 USC § 7409.
23 42 USC § 7410(a).
24 42 USC § 7410(c)(1).
25 Id.
in a "nonattainment area," the Act requires the EPA to impose restrictions on new construction, or to prohibit the Secretary of Transportation from approving transportation projects or awarding grants, or to institute both sanctions at once. In addition, if states fail to enforce existing SIPs, the EPA can suspend the issuance of all new or renewed permits for facilities producing air pollution—called "stationary sources"—in nonattainment areas. A suspension of this kind exerts a great deal of economic pressure upon states concerned with attracting and retaining industrial activity. Administrative sanctions are particularly important for the EPA to function effectively, because the EPA could not realistically fulfill its statutory responsibility to promulgate FIPs if a large number of states failed to submit and enforce adequate SIPs. The EPA's resources are simply inadequate for such a cumbersome regulatory task.

If the EPA fails to come up with an adequate FIP of its own or it fails to exert the requisite pressure on states to promulgate and enforce their own SIPs, then citizens with standing can sue the EPA in federal court to force the EPA to do so. Private parties can also bring suit in federal district court to enforce the provisions of existing SIPs or FIPs. These so-called "citizen suit" provisions of the Clean Air Act are available when the state and federal administrative agencies fail to fulfill their statutory responsibilities. Judicial review of the EPA's actions at citizens' behest thus provides the last line of defense against potentially lax federal enforcement and supervision of statewide ambient air quality planning.

2. Flexibility to allow for regional differences.

The Clean Air Act does not treat every region within a state according to a single, inflexible set of federal standards. First, the Act allows the EPA and state governors to designate parts of states as Air Quality Control Regions ("AQCRs"). Three kinds

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26 A nonattainment area is an area that does not meet national ambient air quality standards and thus receives a temporary exemption from particular NAAQS on the condition that the states achieve significant improvement in the air quality of the area within a prescribed time-frame. 42 USC §§ 7501, 7407(d)(1)(A)(i), 7410(a)(2).
27 42 USC § 7509(b).
28 42 USC § 7503(a)(4).
30 42 USC § 7604.
31 42 USC § 7607.
32 42 USC § 7407.
exist: (1) "nonattainment areas," which do not "meet or that contribute[ ] to ambient air quality in a nearby area that does not meet" the relevant NAAQSs; (2) "attainment areas" which do meet the relevant NAAQSs; and (3) "unclassifiable areas" for which not enough information exists to allow the EPA to categorize the areas accurately as "nonattainment" or "attainment."33

In addition, the Clean Air Act accounts for differences in regional ambient air quality between highly disparate geographical areas. The Act provides flexibility by enunciating a principle of "Prevention of Significant Deterioration of Air Quality" ("PSD"). The PSD principle ensures that "each [SIP] shall contain [the necessary measures] to prevent significant deterioration of air quality in each region . . . designated . . . as attainment or unclassifiable."34 In effect, PSD prevents an attainment area from deteriorating.

3. Dealing with cross-jurisdictional externalities.

Because the Clean Air Act provides a means for interstate coordination of air quality planning, the legal regime it creates addresses the need for regional planning created by cross-jurisdictional externalities. Under the statute, the EPA can resolve inter-jurisdictional conflicts between states by forcing neighboring states to strengthen their ambient air quality programs if the neighboring states produce pollution that significantly impairs ambient air quality outside of their borders. The Clean Air Act deals with interstate air pollution in three steps by: (1) requiring that SIPs and FIPs prohibit pollution that will contribute significantly to air pollution in neighboring states; (2) requiring a state to notify neighboring states of any new sources that might lead to deterioration of their air quality; and (3) allowing the EPA to effectively arbitrate disputes between states.35

First, SIPs must "contain adequate provisions" to ensure that a source of pollution will not "contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to . . . national . . . ambient air quality standard[s] or . . . interfere with measures required to be included in [another state's SIP] . . . to prevent significant deterioration of air quality . . . ."36

33 Id.
34 42 USC § 7471.
35 See notes 36-40.
36 42 USC § 7410(a)(2)(D).
Second, the Act requires states to notify one another of any new sources of pollution that might affect each other’s air quality. Where a source of pollution in one state may produce pollution that will affect “any air quality control region outside the State,” a SIP or FIP must require that the source “provide written notice to all nearby States the air pollution levels of which may be affected by such source at least sixty days prior to the date on which commencement of construction is to be permitted by the State providing notice.”\(^3\) In addition, SIPs and FIPs must “identify all major existing stationary sources [which may be interstate polluters] with respect to new or modified sources and provide notice to all nearby States of the identity of such sources . . . .”\(^3\) In this way, states are notified that their own air quality plans may be affected by particular, identified sources of air pollution in a neighboring state.

Third, states can present such disputes to the EPA for an administrative resolution of the conflict. If a state believes that a source in a neighboring state is contributing, or will in the future contribute, to a violation of its SIP, the state can petition the EPA for a ruling.\(^3\) If the EPA finds a violation, the source must comply with the neighboring state’s SIP within three years on penalty of shutting down.\(^4\)

In fact, little “regional ambient air quality planning” per se occurs in the United States. Instead, the federal government simply coordinates the SIPs of the states. Federal coordination ensures that SIPs meet regional air quality needs, and replaces actual regional planning, which would require the states or the federal government to create cumbersome special “air quality regions.”

4. Regional ambient air quality planning in historical perspective.

In fact, the United States did attempt to engage in actual regional ambient air quality planning. This attempt came in the form of the “interstate compacts” provision of the Clean Air Act of 1963.\(^4\) The provision called for states to establish, by interstate compact, an “interstate control agency” that was to deal

\(^3\) 42 USC § 7426(a)(1).
\(^3\) 42 USC § 7426(a)(2).
\(^3\) 42 USC § 7426(b).
\(^4\) 42 USC § 7426(c).
\(^4\) § 2(c), Pub L No 88-206, 77 Stat 392, 393, codified at 42 USC § 7405. See also 42 USC § 7406 (interstate agencies).
with the problem of cross-jurisdictional externalities. Unfortunately, the states were unable to resolve the problem. Similar attempts, like the Illinois-Indiana Air Pollution Control Commission, likewise failed, due to state unwillingness to allow real enforcement powers to the newly-created regional bodies.

B. Regional Ambient Air Quality Planning in Germany Under the Federal Immission Control Act

Germany's Federal Immission Control Act—the statute that regulates regional ambient air quality—and its system of judicial review and federal supervision over state implementation differ markedly from the regional ambient air quality planning regime in the United States. Both are weaker. The German regional air quality planning regime has two characteristic features: first, a weak federal air quality planning law and second, an absence of effective judicial review of regional air quality planning.


In Germany, the Federal Immission Control Act provides for regional air quality plans to be developed by the states. Insofar as the Act sets federal ambient air quality standards to be implemented by state ambient air quality plans, the German regime resembles that of the United States. The plain language of the Act has many gaps, however, leaving the states near-total discretion about whether to promulgate regional air quality plans at all and about the actual content and geographical scope of those plans.

The first sentence of Article 47(1) of the Act, which provides for statewide air quality plans, is deceptively unequivocal. It states that statewide air quality plans are to function as "restoration plans." The states must promulgate air quality plans wher-

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43 Id § 1.10 at 10-12.
45 (Bundesimmissionsschutzgesetz-BImSchG) BGBI. I S. 880. The German term "Immission" means the same thing as the English "ambient air quality standard". In the interests of brevity, however, the essay leaves the term "immission" in place throughout.
46 BImSchG § 47(1), BGBI. I S. 880.
ever maximum immissions levels have been exceeded according to air quality analyses to be undertaken by the states in special “investigation areas.” Maximum immissions levels are set by regulations binding upon third parties, by administrative regulations issued by the federal government pursuant to the Act to “protect against risks to health,” or by the European Community in the form of binding resolutions.

The second sentence of Article 47 of the Act, however, is highly discretionary and equivocal, blunting the clear mandate of the first sentence. The second sentence stipulates that states should promulgate statewide or geographically specific air quality plans if “other harmful effects to the environment have occurred or are to be expected due to air pollution.” But Article 47 does not enumerate the “other harmful effects.” The plain language of the sentence, therefore, allows significant discretion to states in deciding whether to promulgate air quality plans. The Federal Administrative Court has suggested that such language means that states must promulgate air quality plans except under “atypical circumstances.” But the Court’s ruling is equally ambiguous, because it leaves the definition of “atypical circumstances” to the state agencies implementing the law.

The provisions of Article 47 that follow are even more discretionary and equivocal. The third sentence states that

[a] regional air quality plan may be promulgated to prevent harmful effects to the environment if the maximum level immissions set by administrative order pur-
suant to this law or by binding resolutions of the European Community are exceeded, or the air pollution could prove detrimental to the uses of the area provided for in zoning and planning ordinances.\textsuperscript{55}

Language such as "could prove detrimental to the uses of the area" gives states a broad license in promulgating regional air quality plans. The states can define and exclude particular "uses" and can determine on an \textit{ad hoc} basis whether the likelihood of detriment to such uses warrants a regional air quality plan.

States also have broad discretion to define the geographic areas to which the plans apply—the so-called "investigation areas."\textsuperscript{56} Although the States' Commission for Immission Control promulgated criteria for the definition of investigation areas in 1974, those criteria are not legally binding upon the states.\textsuperscript{57} States can legally define "regions" for the purpose of air quality planning as they desire, even if their definitions make little sense.

Moreover, states may decide to promulgate regional air quality plans only for "certain polluting materials, [for] certain parts of an investigation area, and [for] certain kinds of immission sources."\textsuperscript{58} This provision weakens the legally binding force of "investment areas" for defining the geographical scope of regional air quality plans. At the same time, the provision allows states to eschew a comprehensive regional air quality plan by allowing states to limit the plan to "certain polluting materials" and "certain kinds of immission sources." In this respect, too, states have nearly total discretion in promulgating regional air quality plans.

The Federal Immission Control Act does provide a rough, and equally discretionary, description of the contents of regional air quality plans. Regional Air Quality Plans are supposed to contain: (1) "a description of the established emissions and immissions\textsuperscript{59} of all or certain air pollutants"; (2) "data on the established effects on the protected interests and assets referred to in Article 1"; (3) "determinations regarding the causes of the air

\begin{footnotes}
\footnote{55}{BImSchG § 47(1) (Emphasis added).}
\footnote{56}{BImSchG § 44.}
\footnote{57}{Engelhardt, \textit{Kommentar} at 192-93 (cited in note 49).}
\footnote{58}{BImSchG § 47(1).}
\footnote{59}{The Federal Immission Control Act (like the United States Clean Air Act) distinguishes between "emissions"—releases of air pollutants from facilities—and "immissions"—ambient air quality levels. BImSchG § 3(2)-(3).}}
pollution and its effects”; (4) “a statement of the maximum immission levels and model immission levels referred to in paragraph (1) above, as well as any proposed uses [of the area]”; and (5) “the measures to be undertaken to reduce and prevent air pollution.” This list of criteria for the content of regional air quality plans is highly general and demands little rigor in either data collection or prescriptive solutions.

2. Making Ambient Air Quality Maintenance Plans binding.
   By themselves, the Ambient Air Quality Maintenance Plans adopted pursuant to Article 47 of the Federal Immission Control Act are binding upon no one, not even upon the state agencies that promulgate them. To make the plans legally binding, the states must incorporate the operative provisions into a regulation binding third parties (including state agencies generally), or an administrative regulation that binds only the state environmental agency in charge of implementing pursuant to Article 49 of the Act. Without an accompanying regulation binding third parties or an administrative regulation, an Ambient Air Quality Maintenance Plan is nothing more than a suggestion. The states themselves provide for such regulations according to their own laws, and can determine the scope of measures and the form of regulation. One must look to the state regulations themselves, therefore, to determine the extent to which Ambient Air Quality Maintenance Plans are legally binding upon state administrative agencies.

3. Federal supervision of states in regional air quality planning.
   Theoretically, federal administrative agencies charged with environmental protection or the legislative branch of the federal government—Bundestag or Bundesrat—might be able to force state agencies into compliance. The federal government possesses several means to force the states to put in place regional air

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60 BImSchG § 47(2).
61 BImSchG § 47(3). See also Engelhardt, Kommentar at 202 (cited in note 49). As of 1993, only North-Rhine-Westphalia had adopted an administrative order empowering the state government to declare binding the measures proposed in regional air quality plans.
62 Engelhardt, Kommentar at 202-03 (cited in note 49) (describing the state-law provisions in Bavaria and North-Rhine-Westphalia for making Ambient Air Quality Maintenance Plans legally binding); Jarass, Kommentar at 584-86 (cited in note 54).
63 These are the two chambers of the federal legislature in Germany, the former directly elected by votes, the latter elected by the governments of the German states.
quality maintenance plans. First, with the consent of the Bundesrat, the Bundestag under Article 84(1) of the Basic Law may regulate the organization and procedures of state agencies charged with executing federal laws. Second, and also with the consent of the Bundesrat, the Bundestag under Article 84(2) may issue administrative regulations that specify in greater detail how a federal law must be carried out, constraining the discretion of the states in implementing the federal law. Third, the federal government under Article 84(3) may exercise supervision over the states in their execution of federal law, and for that purpose may send observers to state agencies charged with executing the particular federal laws in question. Fourth, if the state governments fail to enforce federal laws, the federal government under Article 84(4) may receive a determination from the Bundesrat that the states are in derogation of their duties. Fifth, with Bundesrat consent, the federal government under Article 84(5) may issue particular instructions to states on a case-by-case basis to force state compliance. Finally, if "all else fails," the federal government under Article 37 may take "other necessary measures" to enforce compliance.

It should be noted, however, that in the nearly 50-year history of the Federal Republic of Germany, the Bundesrat has never been asked to find a state in violation of its duty or to approve coercive measures under Article 37. Moreover, the federal government usually lacks real enforcement authority and cannot itself step into the role of the states if the states fail to fulfill their statutory responsibilities.

4. Judicial review of regional ambient air quality planning.

Even if solid legal duties and federal supervision bound states to promulgate adequate regional air quality plans, the nature of judicial review in Germany would act as a further barrier to adequate regional air quality plans. At first glance, judicial review in Germany would seem to provide the potential for

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64 The Basic Law is the constitution of the Federal Republic of Germany.
66 Id.
67 Id.
68 Id at 67-68.
69 Currie, German Constitution at 68 (cited in note 65).
70 Id.
71 Id.
72 Id at 8-9.
significant oversight of federal and state agency actions. "Article 19(4) [of the German Basic Law] guarantees judicial review of administrative action to anyone whose rights are infringed by public authority." Moreover, Article 19(4) suggests that the reviewing court should determine both the law and the facts de novo. However, the foregoing provisions apply exclusively to the protection of individual rights.

With regard to judicial review of agency action that affects the general welfare, the German administrative courts have far more limited powers of judicial oversight than federal courts in the United States. As a general matter, the administrative court system does not exist to hear challenges to the legality of federal or state laws or of federal regulations and guidelines. Citizen suits of the kind brought pursuant to the United States' Clean Air Act are foreign to the German legal system as a whole and German clean air law in particular.

5. No provision for cross-jurisdictional externalities.

The Federal Immission Control Act, TA-Luft, and other accompanying federal administrative orders, in contrast to the American Clean Air Act, make no provision for preventing interstate violations of regional air quality plans. Thus, they fail to provide for the possibility of inter-jurisdictional conflicts with regard to regional air pollution planning.

6. Lack of a coordinated agency approach air quality planning.

The sources of German air quality planning are diffuse, and are not centrally enforced. Numerous statutes exist that mandate small-scale varieties of air quality planning across small geographic areas. As a result, coordination between statutes and agencies is difficult. For example, geographically-specific, highly complicated federal laws and administrative orders dealing with housing construction, zoning, development planning, street traffic, air traffic, industrial law, and restaurant law contain air quality planning requirements in addition to those of the Federal Immission Control Act. This kind of legal regime makes coordi-

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73 Currie, German Constitution at 162 (cited in note 65).
74 Id.
75 Susan Rose-Ackerman, Controlling Environmental Policy: the Limits of Public Law in Germany and the United States 72 (Yule 1995).
76 Id at 12-13.
77 Id at 11.
78 See, for example, Hans Paul Prümm, Umweltschutzrecht: Eine systematische
nated approaches more difficult because ambient air quality planning must take into account a labyrinth of complex statutes which also impose immission requirements.

III. EVALUATING THE EFFECTIVENESS OF REGIONAL AMBIENT AIR QUALITY PLANNING IN THE UNITED STATES AND GERMANY

A. The Difficulty With Comparing Empirical Data on Ambient Air Quality in the United States and Germany

A comparison of data on ambient air quality in the United States and Germany might be an obvious place to begin an examination of the relative success of the United States and German air quality maintenance regimes. In fact, however, several factors detract from the usefulness of such a comparison. First, the differences in the size of the United States and German population and territory make comparison difficult. For example, the relative levels of sulfur dioxide and nitrogen dioxide in the two countries are reversed when immissions per capita are used as a benchmark rather than immissions per square kilometer. But even immissions per capita and immissions per square kilometer tell us little, because what we really need to know is "a frequency function of per capita exposures for each country recording the proportion of the population exposed to different levels of ambient air quality." Only such a statistic would accurately convey the relative levels of ambient air pollution as they affect the respective populations of the each country. No such comparable statistics exist.

Second, the historical timing of the enactment of air pollution control measures in the United States and Germany makes comparison difficult. For example, the United States acted in 1990 to reduce sulfur dioxide emissions from power plants and other major sources, while Germany acted in 1983. "Full implementation will reduce the intercountry differences" by the year 2000. Because the length of time pollution control mea-
sures have been in force significantly affects present ambient air quality, comparing ambient air quality in the United States and Germany is unhelpful.\textsuperscript{85}

Third, Germany is more likely to suffer adverse effects from the immissions of neighboring countries than is the United States.\textsuperscript{86} This disparity makes it difficult to correlate the nature of regional air quality planning in Germany with ambient air quality levels there.\textsuperscript{87}

Because empirical measures cannot accurately assess the relative success of German and American regional air quality planning regimes, we must look to more qualitative methods.

B. Assessing the Ambient Air Quality Planning of the United States

1. \textit{The approval and implementation of inadequate SIPs.}

When federal and state agencies fail to supervise the implementation of statewide air quality plans, those agencies leave enforcement of the law to citizens, public interest groups, and federal courts, all of which are ill-equipped for the task.

Citizens lack the ability to make complicated technical determinations necessary to assess the adequacy of a state or federal air pollution program.\textsuperscript{88} Furthermore, citizens do not possess the kind of financial resources that would allow them to make reliable determinations. Moreover, even national environmental organizations with substantial resources and expertise will not detect every approval of inadequate SIPs, because ambient air quality planning is primarily a state responsibility and involves promulgating and implementing lengthy and technically complicated SIPs in 50 separate jurisdictions.\textsuperscript{89} As a result, private enforcement is inaccurate, leaving many violations of clean air law undetected and exacerbating the problem of frivolous suits. This situation necessarily leads to inefficient supervision of a complicated legal regime and an inefficient use of judicial resources. This inefficiency interferes with the ability of the federal-state planning regime to effectively police itself.

Meanwhile, federal courts are similarly ill-equipped to enforce the SIP-FIP provisions of the Clean Air Act. Federal courts

\textsuperscript{85} Id.

\textsuperscript{86} Id at 22-23.

\textsuperscript{87} Rose-Ackerman, \textit{Controlling Environmental Policy} at 20-21 (cited in note 79).

\textsuperscript{88} See \textit{Natural Resources Defense Council, Inc v EPA}, 902 F2d 962 (DC Cir 1990).

\textsuperscript{89} See Part II.
can use their power to review administrative action to order the
government to comply with the clean air laws. For courts to
engage in such supervision, however, is not only a waste of scarce
judicial resources, but is also an arguably futile endeavor. Recal-
citrant agencies often cannot be made to comply, even under
court supervision. As a result, the federal-state division of
powers and responsibilities for ambient air quality planning is
difficult to police.

2. The inevitability of the problem.
Arguably, however, the flaws in American regional air quali-
ity planning are inevitable. Citizens and environmentalist groups
attempts to enforce clean air law will inevitably confront comp-
licated technical questions. To analyze those questions, citizens
and environmentalist groups will require significant outlays of
financial resources and human capital. Greater administrative or
judicial oversight likewise fails to ensure full enforcement of
environmental laws. If we were to create a new government
agency or authorize more searching judicial review to supervise
environmental law enforcement, we would need to find a way of
supervising the new supervising body as well.

Still, the states may not be the best vehicles for regional air
quality planning. If policy were made in a political and legal vac-
uum (that is, without any other jurisdictional considerations
getting in the way), we might be able to design air quality control
regions that most nearly matched regional air quality concerns.
However, such regions are a political and administrative impos-

3. The treatment of administrative orders and rules.
The treatment of administrative authority plays an impor-
tant role in the effectiveness of regional ambient air quality plan-
ing in the United States. The EPA's orders and rules regarding
SIPs, the PSD program, attainment and nonattainment areas,
and sanctions have the force of law. This fact, in large part, ac-
counts for the relatively smooth functioning of the federal-state
division of design, implementation, supervision, and coordination
of regional ambient air quality planning in the United States.

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90 42 USC § 7604(a).
91 Courts often retain jurisdiction over a period of years while waiting for agencies to
comply. See, for example, Alaska Center for the Environment v Browner, 20 F3d 981 (9th
Cir 1994).
It is well settled that administrative orders and rules are legally binding and must be enforced by the federal courts. Therefore, the EPA may announce legally-binding rules and orders. It can enforce those rules and orders by various sanctions and by suits in federal court. As discussed in Part II.A.1, these strong enforcement powers are an important element of the legal regime for guaranteeing regional ambient air quality planning. Without these powers, the EPA could not effectively oversee the states in their duty to implement regional ambient air quality planning in the federal system.

4. The results of American regional ambient air quality planning.

All 50 states have operative SIPs or FIPs, and it is beyond dispute that regional ambient air quality planning is occurring in all 50, albeit imperfectly. Moreover, the federal government has issued and enforced regulations that require attainment of air quality standards and forbid significant deterioration, resulting in undisputed reductions in ambient air quality violations.

C. Assessing the Regional Ambient Air Quality Planning of the Federal Republic of Germany

It is not difficult to see the practical effect of the German regime of ambient air quality planning. In Germany, regional air quality planning never happens for all practical purposes. As discussed in Part II.B, Germany places responsibility for regional air quality planning in the hands of states, without at the same time creating strict standards for compliance and placing supervisory and enforcement powers in the hands of the federal government. The result is straightforward: German states have not implemented federally-mandated state air quality plans.

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92 See Humphrey’s Executor v United States, 295 US 602 (1935) (affirming administrative agencies’ authority to exercise judicial and legislative authority); National Petroleum Refiners v FTC, 482 F2d 672 (DC Cir 1973) (upholding the right of administrative agencies to make substantive agency policy through rule-making, even where the enabling law is unclear with regard to that authority); SEC v Chenery Corp., 332 US 194 (1947) (upholding administrative orders where a situation before an agency demonstrates facts too specific to be dealt with by the drafting of a rule).
1. The German states’ failure to promulgate Ambient Air Quality Maintenance Plans.

Since passage of the Federal Immission Control Act, the German states have published Ambient Air Quality Maintenance Plans that cover only 5,244 square kilometers of their 356,845 square kilometer territory, or a total of less than 1.5 percent of the territory of the Federal Republic of Germany. Of sixteen German states, only five have published Ambient Air Quality Maintenance Plans, of which two are city-states of limited geographical scope—Hamburg and Berlin.

2. The limited scope of Germany’s existing Ambient Air Quality Maintenance Plans.

The Ambient Air Quality Maintenance Plans that do exist are limited in various ways. Aside from the Plans published by the city-states (which are of limited regional usefulness), the other German states have chosen to limit the scope of their Ambient Air Quality Maintenance Plans geographically. Some states have also limited the scope of their Ambient Air Quality Maintenance Plan with respect to the range of pollutants included.

The state of North-Rhine-Westphalia possesses the geographically largest Ambient Air Quality Maintenance Plan, covering approximately 9.5 percent of its territory, exclusively focusing on areas with highly concentrated industrial activity and high population density. The state of Rhineland-Pfalz possesses Air Quality Maintenance Plans for just over 1.1 percent of its territory. Finally, the state of Hessen has limited its Air Quality Maintenance Plans to several areas totaling less than 3.0 percent of its territory. Even among the few individual states that have published them, therefore, existing Ambient Air Quality

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93 This statistic does not include Ambient Air Quality Plans that have been drafted, but not adopted formally. See, for example, Siegfried Wurm, Informationen zum Stand der gebietsbezogenen Luftreinhaltplanung der Bundesländer, 11/12 Informationen zur Raumentwicklung 1035, 1041 (1985) (listing several proposed Plans that have been drafted or are “under development” but that have received no further attention and carry no legal significance).

94 Thomas W. Büttner, Regional differenzierte Luftreinhalteregelungen im anlagenbezogenen Immissionsschutzrecht der Bundesrepublik Deutschland 66-70 (Peter Lang 1992) (“Regional differenzierte Luftreinhalteregelungen”) (claiming that German states have developed no further Air Quality Maintenance Plans since that time).

95 Id.

96 Id.

97 Id at 66-70 (cited in note 94).
Maintenance Plans cover only a highly circumscribed geographical area.

In addition, most Air Quality Maintenance Plans do not cover all the pollutants for which the Federal Immission Control Law and the accompanying TA-Luft provide national ambient air quality standards. The state of Berlin, for example, has only published an Air Quality Maintenance Plan for sulfur dioxide, although it has developed a plan covering a much broader range of pollutants.98

3. Absence of interstate coordination of ambient air quality planning to deal with cross-jurisdictional externalities.

German clean air law makes no provision for coordinating regional ambient air quality planning to deal effectively with cross-jurisdictional externalities.99 German reunification exacerbated this failure. Reunification brought a number of new states into the Federal Republic of Germany that had severe ambient air quality problems.100 The severity of the ambient air quality problems of the new states can be seen from the volume and content of the special legislation and regulation that apply to these states alone. These special arrangements generally loosen the requirements of environmental statutes in the interests of promoting economic development.101

IV. A PARADIGM FOR FEDERALISM IN REGIONAL AMBIENT AIR QUALITY PLANNING

In light of the German and American experiences with regional ambient air quality planning, important limitations of federalism emerge. While some limitations are endemic to any federal system, others follow from the particular system a nation employs. This is especially true of regional air quality planning.

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98 Buettner, Regional differenzierte Luftreinhalteregelungen at 66-70 (cited in note 94).
99 See Part II.
100 See, for example, Rose-Ackerman, Controlling Environmental Policy at 22, 153 n 1 (cited in note 79).
101 See, for example, Michael Kloepfer, Das Umweltrecht in der deutschen Einigung. Zum Umweltrecht im Einigungsvertrag und zum Umweltrahmengesetz 69-122 (Duncker & Humboldt 1991).
A. The Federal Role

1. Setting national standards for ambient air quality.

The German experience with the dearth of regional planning demonstrates that the federal government cannot simply set national standards for ambient air quality to be implemented at the state level. In Germany, an administrative regulation—called the TA-Luft—sets national standards and demands that they be met through regional ambient air quality planning, among other means. But despite these federally-imposed standards, virtually no regional ambient air quality planning occurs in Germany.

That is not to say that national ambient air quality standards are not useful. They are. In the United States, they form the bases around which states design their Implementation Plans. Some minimum standards are necessary to ensure that a baseline for ambient air quality exists beyond which states may not allow pollution. But the German experience demonstrates that national ambient air quality standards alone will not ensure that regional ambient air quality planning occurs.

2. The role of federal and private supervision and enforcement.

Germany lacks federal enforcement of national ambient air quality standards. The United States' National Ambient Air Quality Standards ("NAAQSs") possess substantial force in statewide ambient air quality planning because the EPA, as well as citizens and environmental organizations, have significant administrative and judicial sanctions at their disposal to enforce the standards. That is not the case in Germany, in part because of the generally weaker federal enforcement role in joint federal-state tasks like air pollution control, and in part because the system of judicial review of administrative action was not designed for citizen suits. An effective regional air quality scheme demands federal involvement in administrative enforcement and third party access to judicial review of administrative action.

3. The role of the federal government in coordinating regional ambient air quality planning.

Based on the need for regional air quality planning and the historical failure of states to accomplish such regional planning when left to their own devices, federal involvement is also called for in dealing with cross-jurisdictional air pollution. Federal coordination of statewide ambient air quality planning addresses cross-jurisdictional externalities, while preserving the advantages
states have in determining and addressing their own ambient air quality problems. This coordination is not regional planning per se, but rather statewide planning with federal coordination. These, then, are the limits to devolution of which New Federalists should be aware.

B. The Role of the States

Beyond the powers enumerated above, which are properly placed in the hands of the federal government, the states should be free to maneuver as they choose with respect to regional ambient air quality planning. They should design their own statewide ambient air quality planning regimes, provided that the plans comply with broad federal requirements. Once the essential powers of the federal government are outlined, all else may reasonably be placed squarely into the able hands of the states, which have superior knowledge of local conditions and an incentive to innovate.

C. The Limitations of Federalism in the United States and Germany

For Germany, the experience of the United States demonstrates that no system of regional air quality planning can achieve perfection. Nevertheless, the American experience demonstrates the possibilities of effective pollution control within a framework of considerable state autonomy. Problems of federalism inevitably arise due to the difficulty of coordinating between governmental levels and jurisdictions. These problems will not disappear. They constitute fundamental imperfections of all federal systems.

At the same time, however, neither of the alternatives for regional ambient air quality planning—centralization or devolution—will likely work very well. Centralizing ambient air quality planning in the hands of the federal government, in addition to being politically infeasible, would be costly, make regional planning less effective, and frustrate self-determination and experimentation by states. Further devolution of discretionary powers to the states, on the other hand, poses the danger of a “race-to-the-bottom” in regional ambient air quality planning. The German experience demonstrates that states will not engage in effective regional air quality planning without the federal government exerting pressure upon them to do so. In practice, a lack of federal supervision, coordination, and enforcement of regional ambient
air quality planning results in too much state discretion and provides a recipe for a "race-to-the-bottom."

The United States already has a system of statewide air quality planning that ensures sufficient state autonomy to deal effectively with local air pollution problems. At the same time, the United States' clean air law ensures that regional air quality plans meet minimum standards for effectiveness. The law provides flexibility, treating regions with different levels of ambient air quality differently so that all regions will not fall to the same low standard. The United States' clean air law assures that coordination between states will occur, addressing the problem of cross-jurisdictional externalities and ensuring inter-jurisdictional air quality.

The problem of proving causation and the difficulties with comparing ambient air quality between the United States and Germany make it impossible to claim that ambient air quality in the United States has improved more than in Germany as the result of United States regional air quality planning. It is clear, however, that the United States' regional air quality regime does a better job than the German regime with respect to the division of federal-state responsibilities. In contrast to the German model, all 50 states possess SIPs, and federal enforcement and coordination of SIPs occurs.

CONCLUSION

The practical limitations to the devolution envisioned by New Federalism should be recognized and respected. Further devolution would likely lead to a race-to-the-bottom in regional ambient air quality planning. The United States should not abandon the basic federalist balance of the Clean Air Act in favor of a system in which greater powers are placed in the hands of states. In so arguing, this Comment attempts to substitute sober lessons gleaned from another country's experience for the romanticism of an as yet untried and untested theory of devolution. In the field of clean air law, the quest for the perfect may indeed prove the mortal enemy of the good.