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Legal Issues in Integrated, Multi-Pollutant Planning for Energy and Air Quality

by
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EXECUTIVE SUMMARY

In the face of persistent air quality problems, as well as emerging concerns such as greenhouse gases and state budgetary constraints, states are looking to new ways to maximize air quality while minimizing costs. The non-profit Regulatory Assistance Project (RAP) assists states in air quality management, and has recently proposed a new methodology for states to use in order to take a proactive, forward-thinking approach to optimize air quality. RAP's proposed *Integrated, Multi-Pollutant Planning for Energy and Air Quality* (IMPEAQ) fosters long-range planning, multi-pollutant analysis and cost optimization modeling to enable state air quality districts to achieve efficient gains in air quality.

At RAP's request, the Center for Climate Change Law has undertaken an analysis of potential legal issues that might arise during the use of IMPEAQ. This white paper assesses the general statutory and regulatory framework applicable to IMPEAQ as a voluntary program for states to adopt for their air quality planning. It first addresses threshold issues: state authority under the Clean Air Act to voluntarily implement integrated planning using IMPEAQ and the permissibility of using a multi-pollutant approach to air quality planning. It then examines two key issues concerning emerging control measures: how states can use energy efficiency and renewable energy (EERE) programs in their State Implementation Plans (SIPs) and to what extent states may allow novel measures to satisfy the Act's source-specific control technology requirements.

Our analysis finds that the IMPEAQ approach would be generally permissible under the Clean Air Act and EPA policy, given the wide discretion states have to develop their air quality plans and to choose the control measures they wish to use in their SIPs. Further, emerging control measures identified through the IMPEAQ process, such as energy efficiency and renewable energy programs, may qualify for SIP credit where the state meets the specific statutory and regulatory requirements for doing so. An open issue—though arguably allowable under the Act—is the degree to which states could opt to allow offsite programs to substitute for site-specific technology controls.

Based on this analysis, we conclude that IMPEAQ represents a viable planning approach for states to voluntarily adopt for integrated, multi-pollutant air quality planning. The proposed general framework is allowable under the Clean Air Act and is consistent with EPA's policy that favors a multi-pollutant analysis and encourages the use of cost-effective measures to improve air quality. However, we must caution that because the specifics of planning under the IMPEAQ approach are still under development, this paper is not intended to assess all potential aspects of IMPEAQ planning.

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INTRODUCTION

States have made great strides in improving air quality since the Clean Air Act was passed in 1970. However, air pollution remains ubiquitous and continues to impact health across the nation. The American Lung Association reports that over 127 million people in the U.S., or 41%, live in areas with poor ozone or particulate pollution,[1] with 5.7 million of these people living in areas that also have both short-term and year-round particulate pollution.[2] This pollution has been linked to serious health conditions, including increased risk of heart attacks, strokes, premature deaths, and even lung cancer in people who do not smoke.[3] Over 2.5 million children with asthma in the U.S. live in areas with elevated ozone, as do 3.7 million people with bronchitis and 1.6 million with emphysema.[4]

Given these statistics, many states are striving to further improve their air quality. At the same time, many are also pursuing parallel goals of managing their energy needs and reducing greenhouse gases, the latter which can further improve air quality by incidentally reducing pollutants such as ozone, particulates, sulfur dioxide, nitrogen oxide and hazardous air toxins. However, under the current federal regulatory structure that focuses on single pollutants and requires separate State Implementation Plans (SIPs) required for each, states have found it challenging to keep up with the numerous SIP requirements for each of the National Ambient Air Quality Standards (NAAQS) and Hazardous Air Pollutants (HAPs), as well as with their other statutory obligations under the Clean Air Act. Budgetary constraints have exacerbated the difficulty of meeting these obligations. In turn, states often find themselves in primarily a responsive mode to immediate air quality concerns, rather than in a position to take a more proactive and long-term approach to addressing air quality in their districts.

To help states streamline their air quality efforts and move towards a more long-term view of air quality planning, the Regulatory Assistance Project (RAP) has developed a voluntary program for states to integrate their energy and air quality planning goals in the most efficient and cost effective manner. RAP's *Integrated, Multi-Pollutant Planning for Energy and Air Quality* (IMPEAQ) proposal is intended to enable states to take a proactive, forward-thinking approach to optimize air quality, by fostering long-range planning, multi-pollutant analysis and cost optimization modeling so that state air quality districts can achieve efficient gains in air quality. RAP envisions that states may use the IMPEAQ process to plan ahead to determine the optimal air quality they want in the long term, and then choose to derive a "total tonnage" or "emission budget" for each pollutant to reach this goal. States would then use IMPEAQ to identify the most effective mix of traditional and emerging control measures, including demand-side energy efficiency and renewable energy programs, to attain these goals, thereby maximizing improvements to air quality at the lowest economic and social cost.

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[1] AMERICAN LUNG ASSOCIATION, STATE OF THE AIR REPORT 8 (2012), *available at* www.stateoftheair.org/2012/assets/state-of-the-air2012.pdf.
[2] *Id.* at 5.
[3] *Id.* at 27, 36.
[4] *Id.* at 8.

RAP has asked the Center for Climate Change Law to identify foreseeable legal impediments to states voluntarily adopting this approach. RAP has released a draft of its IMPEAQ proposal,[5] but the program's details remain under development and refinement and, even once finalized, will differ as to each state's implementation of IMPEAQ. Accordingly, this white paper is not intended to provide a detailed analysis of control measures or all potential aspects of IMPEAQ planning, such as specific measures for greenhouse gases or implementation of an "emissions budget" approach. Rather, here we seek to describe the general statutory and regulatory framework applicable to IMPEAQ. While air quality experts will be familiar with many of the concepts discussed here, the background presented is intended to provide an overview to state decision-makers who are considering whether to adopt IMPEAQ and to others who may be less familiar with the regulatory framework. It is also important to reiterate that this analysis assumes states will adopt IMPEAQ voluntarily. Although we considered briefly whether EPA could require states to adopt the IMPEAQ process, this is unlikely since the Act gives states wide deference to create their own air quality plans.

This paper addresses four threshold questions relevant to IMPEAQ:

I. State Discretion – Do states have authority under the Clean Air Act to voluntarily implement their own integrated planning using IMPEAQ? Could EPA require states to adopt IMPEAQ?

II. Multi-Pollutant Approach – Do the Act and EPA policy allow for a multi-pollutant approach to air quality planning?

III. Use of Energy Efficiency and Renewables – How can states use energy efficiency and renewable energy programs in their State Implementation Plans?

IV. Source-Specific Control Measures – To what extent may states allow offsite measures to satisfy the Act's source-specific control technology requirements?

As discussed below, a voluntary and multi-pollutant IMPEAQ approach would be generally permissible under the Clean Air Act and EPA policy, given the discretion states have to develop their air quality plans and to choose the control measures they wish to use in their State Implementation Plans (SIPs). Further, emerging control measures identified through the IMPEAQ process, such as energy efficiency and renewable energy (EERE) programs, may qualify for SIP credit where the state satisfies the specific statutory and regulatory requirements for doing so. An open issue—though arguably allowable under the Act—is the degree to which states could opt to allow offsite programs to substitute for site-specific technology controls.

[5] *See* Christopher James & Kenneth Colburn, *Integrated, Multi-pollutant Planning for Energy and Air Quality (IMPEAQ)* (Regulatory Assistance Project March 4, 2013). RAP anticipates releasing an updated version of its IMPEAQ proposal in fall 2013.

DISCUSSION

I. STATE DISCRETION IN AIR QUALITY PLANNING TO ADOPT IMPEAQ

The first and most important question for IMPEAQ is whether states have authority under the Clean Air Act to voluntarily implement their own integrated planning using IMPEAQ, or alternatively whether EPA can require states to adopt the program. In short, though it is likely that EPA cannot mandate that states use IMPEAQ, there appears to be no federal statutory or judicial bar to a state crafting its own air quality plan using IMPEAQ's integrated approach. Moreover the Act sets a floor, so states may go beyond what EPA otherwise requires and thus they may set stricter standards by adopting a more comprehensive program such as IMPEAQ,[6] to the extent allowed under individual state laws.

The Act sets forth that "air pollution control at its source is the primary responsibility of states and local government."[7] While EPA sets the NAAQS for criteria pollutants, this provision reserves to states the right to determine how they will achieve and maintain these standards[8] and it gives deference to states in developing their air programs. This, in turn, limits the ability of EPA to impose mandatory air quality plans or control measures on states.

Due to this delineation of responsibilities between states and EPA, courts have upheld the importance of preserving state discretion to choose their own SIP control measures. Although the Act requires that SIPs contain particular components,[9] courts require EPA to take a "back seat" in how states design their SIPs.[10] Specifically, EPA must accept a state's SIP unless it can show it is "substantially inadequate" to meet or

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[6] Clean Air Act (CAA) §116, *codified at* 42 U.S.C. § 7416 (2012); *see also Connecticut v. EPA*, 656 F.2d 902 (2d Cir. 1981).
[7] CAA § 101, *codified at* 42 U.S.C. § 7401.
[8] CAA § 101, *codified at* 42 U.S.C. § 7407(a) (providing that "states will specify the manner in which national primary and secondary ambient air quality standards will be achieved and maintained within each air quality control region in such State").
[9] SIPs must contain "enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions or emissions rights), as may be necessary or appropriate to meet the applicable requirements of [the] Act." CAA § 110, *codified at* 42 U.S.C. § 7410(a)(2). Among other requirements, SIPs also must include provisions for monitoring and data collection, enforcement, regulation of new or modified stationary sources "as necessary to assure that national ambient air quality standards are achieved, including a permit program," and must prohibit emissions of "any pollutant in amounts with will…contribute significantly to nonattainment in, or interfere with maintenance by, and other State with respect to any [NAAQS], …[or] to prevent significant deterioration of air quality or to protect visibility." *Id.*
[10] The Supreme Court has held that EPA may not question a state's choice on how it will achieve the NAAQS, as long as the SIP meets the requirements of Section 110; the state may choose its own "mix" of control measures and EPA plays merely a secondary role to oversee that the state fulfills its statutory obligations. *Train v. NRDC*, 421 U.S. 60, 79 (1975) (addressing CAA § 110(a)(2)). Most recently the D.C. Circuit reiterated this in *EME Homer City Generation v. EPA*, emphasizing that the principle of "statutory federalism" prohibits EPA from using the SIP process to force States to adopt particular control measures. *EME Homer City Generation v. EPA*, 696 F.3d 7 (D.C. Cir. 2012), *cert. granted* June 24, 2013.

maintain the federal air quality standards.[11] Even where this has been established, EPA may not specify the particular control measures the state must use when revising an inadequate SIP.[12] States thus have wide latitude over their air quality planning, which gives them the ability to voluntarily adopt the IMPEAQ approach.

II. MULTI-POLLUTANT APPROACH

IMPEAQ not only provides for long-term and integrated planning, but also proposes a fundamental shift to looking at air quality planning from a multi-pollutant standpoint. While this paper only addresses IMPEAQ's conceptual framework rather than the specific details of planning under this approach, such a multi-pollutant focus is consistent with, though not dictated by, the Clean Air Act and EPA's policy in this area. As discussed below, there is no apparent bar to states choosing to use a multi-pollutant analysis, although states still would need to submit SIPs for individual pollutants as otherwise required by the Act.

A. Authority for a Multi-Pollutant Approach

While there is no general requirement for EPA or states to take a multi-pollutant approach to air quality planning, there is support in both the Clean Air Act and the case law for states voluntarily doing so.

[11] CAA § 110, *codified at* 42 U.S.C. § 7410(k)(5). Although the Supreme Court held in *Alaska Department of Environmental Conservation v. EPA* that the Agency retains oversight and thus may strike down a State's BACT determination when it issues a local PSD permit, this does not pose a bar to state discretion because there the State had failed to provide even the minimum support for its BACT analysis. *See* 540 U.S. 461 (2004). In that case the State had initially required the source to use a more restrictive technology but later inexplicably allowed it to use a less effective technology without any basis that the initial technology was economically infeasible. This does not alter the Supreme Court's prior holding in *Train v. NRDC* that States have the primary responsibility to determine the control measures in their SIPs. 421 U.S. at 87.

[12] Under this rationale, federal courts have struck down attempts to partially approve SIPs, or conditionally approve SIPs on a contingency basis, if doing so would impermissibly make the plan more stringent than the state had intended. Even in the more stringent context of nonattainment SIPs, the D.C. Circuit has ruled that EPA may not dictate control measures, such as requiring ozone nonattainment states to achieve emissions reductions by using California's LEV program. *Commonwealth of Virginia v. EPA*, 108 F.3d 1397 (D.C. Cir. 1997). Though the numerous states in *Commonwealth* had the theoretical option of attaining equivalent reductions with other control measures, the court found that the LEV choice was the only realistic method of meeting EPA's stringent emission limitation. The court found, however, that EPA's action was tantamount to dictating the control measure and thus impermissibly infringed on the states' discretion to choose their control measures. *Id.; see also Bethlehem Steel Corp. v. Gorsuch*, 742 F.2d 1028 (7th Cir. 1984) (disapproving EPA's partial acceptance of SIP without addressing state's proposed 'opacity' exception that allowed certain particulate emissions to exceed 15 minutes per day); *Indiana & Michigan Electric Co. v. EPA*, 733 F.2d 489 (7th Cir. 1984) (involving EPA's failure to evaluate, in SIP 'partial approval,' proposed SIP revision to define compliance as determined by 30-day averaging method); *Riverside Cement Co. v. Thomas*, 843 F.2d 1246 (9th Cir. 1988). *Cf. Michigan v. Thomas*, 805 F.2d 176 (6th Cir. 1986) (allowing EPA to condition approval of SIP on inclusion of fugitive dust rules in nonattainment areas, where EPA found state plan allowed for excessive discretion that could result in measures below the minimum standards required by the nonattainment provisions of the Act).

1. Clean Air Act

The Act does not foreclose states from assessing the impact of air quality control measures on multiple pollutants, apart from the requirements that EPA sets NAAQS for individual pollutants and states must therefore submit SIPs for each of those pollutants. Indeed, there are several areas of the Act that support a multi-pollutant analysis. First, even the NAAQS provisions of Section 108 recognize the importance of looking at the interaction between pollutants, which is a multi-pollutant inquiry. While NAAQS criteria are set on a pollutant-by-pollutant basis, the Act requires that in setting these criteria EPA must consider the way in which various air pollutants interact with each other.[13] Similarly, the SIP requirements of Section 110 mandate that, for any given pollutant that a SIP covers, the state must assess whether its plan will contribute to, or interfere with, other states' attainment or maintenance of the NAAQS or compliance with the Act's provisions on the Prevention of Significant Deterioration (PSD) or visibility, for any pollutant.[14]

Second, even some portions of the Act that are otherwise silent on multiple pollutants support the IMPEAQ approach of looking at the way pollutants interact with each other. For example, wherever the Act either requires or allows states or EPA to consider the "environmental costs" of a particular emission standard or control measure, this is potentially an opening to justify a multi-pollutant analysis. This language can be found in several areas of the Act, such as the PSD requirements and those for nonattainment permits.[15]

Further, the Act mandates that EPA has an affirmative duty to provide information to states on issues related to air quality[16]—a duty that should include information on the interaction between pollutants. The transportation provisions of Section 108, for example, specifically require EPA to give states "information on the extent to which any process, procedure, or method to reduce or control such air pollutant may cause an increase in the emissions or formation *of any other pollutant*."[17] EPA must also provide "information on pollution control techniques" for NSPS criteria pollutants,[18] which should include the way in which control measures impact other pollutants. Indeed, as the science becomes clearer as to the interaction among various pollutants and the impact of control measures on other pollutants, it would appear unreasonable not to have these interactions reflected in air quality planning.

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[13] The Act states: "The criteria for an air pollutant…shall include information on (A) those variable factors (including atmospheric conditions) which of themselves or in combination with other factors may alter the effects on public health or welfare of such air pollutant; [and] (B) *the types of air pollutants which, when present in the atmosphere, may interact with such pollutant* to produce an adverse effect on public health or welfare…" CAA § 108, *codified at* 42 U.S.C. § 7408(a)(2) (emphasis added).
[14] CAA § 110, *codified at* 42 U.S.C. § 7410(a)(2)(D)(i).
[15] CAA § 169, *codified at* 42 U.S.C. § 7479 (3) (PSD). *See also* CAA § 173, *codified at* 42 U.S.C. § 7503(a)(5) (nonattainment permits).
[16] CAA § 110, *codified at* 42 U.S.C. § 7410.
[17] CAA § 108, *codified at* 42 U.S.C. § 7408(f)(1)(D) (emphasis added).
[18] CAA § 111, *codified at* 42 U.S.C. § 7411(b)(3).

2. Case Law

Only a few cases have addressed the question of whether EPA may assess emissions on a multi-pollutant basis, and none of these disapprove of such an approach. For example, in 1982 the Second Circuit, prior to EPA's current policy favoring multi-pollutant analysis, held in *Connecticut Fund for Environment v. EPA* that EPA has discretion to look at emissions on a pollutant-by-pollutant basis rather than consider the effect that a state's SIP for one pollutant may have on other pollutants.[19] The particular facts of that case allowed EPA to choose whether to assess a state's SIP revision, which increased sulfur content in fuel, by only looking at the impact on sulfur dioxide rather than by also looking at the impact on other pollutants including total suspended particulates. While it noted that some portions of the Clean Air Act focus on single pollutants, the court did not *require* EPA to conduct a single-pollutant analysis; instead it simply found that EPA could opt to do so.[20] More importantly, the same court further held in a different case that the Act warrants a multi-pollutant approach in the context of the impact of one state's SIP on a different pollutant in another state, since the Act requires states to ensure their SIP revisions will not result in emissions that will prevent or interfere with another state attaining or maintaining its NAAQS for any air pollutant.[21]

B. EPA Policy on a Multi-Pollutant Approach

Apart from the case law, which does not bar a multi-pollutant analysis, EPA policy actively embraces a multi-pollutant approach. EPA encourages states to assess the way in which emissions and particular control measures for a given pollutant impact other pollutants, and its Clean Air Act Advisory Committee (CAAAC) also supports this policy.[22] As the Agency explains, pollutants can at times have either a synergistic or an antagonistic effect on other pollutants, and the particular choice of control technology may also impact several pollutants. Decreasing emissions in one, for example, may lead to similar decreases in another pollutant, or conversely, decreasing one pollutant can at times lead to increases in other pollutants.

Despite favoring a multi-pollutant approach, EPA has no authority to impose on states what it regards as the "best" approach or control measure from a multi-pollutant standpoint, since states retain wide latitude in the types of control measures they can choose to satisfy their air quality obligations.[23] Moreover, where a particular control measure reduces the target pollutant *and* another pollutant, a state has no duty to use that control measure to reduce the second pollutant for which it is already in attainment.

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[19] 696 F.2d 169 (2d Cir. 1982).
[20] Moreover, there was insufficient evidence that the instant SIP provision on sulfur dioxide did, in fact, increase particulates in the state, and at that time EPA did not yet have modeling for calculating the impact of one pollutant on another. *Id.*
[21] *State of Connecticut v. EPA,* 696 F.2d 147 (2d Cir. 1982) (holding EPA was reasonable in finding that New York's SIP revision for sulfur dioxide would not prevent Connecticut's NAAQS attainment for total suspended particulates).
[22] Clean Air Act Advisory Council, *Moving Towards Multi-Pollutant Reduction Strategies in Major U.S. Industrial Sectors* (2011), *available at* www.epa.gov/air/caaac/pdfs/reduction_strategies.pdf.
[23] *See supra* Part I at notes 10-12.

Given this limitation, EPA has taken initial steps to work with states on a voluntary basis to promote a multi-pollutant approach. This falls within EPA's affirmative duty under the Act to provide states with information on pollutants and control technologies. Presumably better-informed states will opt for control measures that have the widest range of benefits, if presented with a choice between a technology that reduces just one pollutant and another which can reduce multiple pollutants, all other factors held equal. To help states make these determinations, EPA has conducted pilot studies on this issue and it has also begun partnering with states to reduce ozone in attainment areas through its multi-pollutant "Ozone Advance" and "PM Advance" programs, discussed below.

1. EPA's Efforts Towards a Multi-Pollutant Framework

In 2004 the National Academy of Science (NAS) published a study recommending integrated, multi-pollutant air quality planning, [24] and in response EPA has taken steps to transition to this approach.[25] In 2008, for example, EPA's Office of Air Quality Planning and Standards (OAQPS) published a Multi-Pollutant Report[26] that articulated the Agency's ultimate goal of creating "a truly integrated air quality management framework [that] would maximize health and environmental benefits using comprehensive emission reduction control strategies."[27] EPA recognizes the difficulty of getting states to develop new models to transition to a multi-pollutant approach,[28] however, so to reach this long-term objective the Agency has sought to develop the "technical infrastructure" to help states conduct this kind of analysis. First, EPA initiated the National Inventory Program, which combines data of both criteria air pollutants (CAPs) and hazardous air pollutants (HAPs). Second, it developed the National Core Monitoring Network ("NCore") to obtain greater data on trace concentration of pollutants in representative locations, which enables EPA to evaluate the effectiveness of its models and to better assess the health-related impacts of exposure to multiple pollutants.[29] Further, EPA created a "one atmosphere" air quality modeling system, the "CMAQ" model, which integrates and simulates multiple criteria and hazardous pollutants.[30] This modeling data may be input into EPA's BenMAP model to evaluate the health and cost benefits of various emissions reductions. With these tools, EPA has sought to form a "multi-pollutant modeling platform"[31] to enable states to conduct multi-pollutant analysis.

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[24] National Research Council of the National Academy of Science*, Air Quality Management in the U.S.* (2004).
[25] *See supra* note 22.
[26] EPA Office of Air Quality Planning and Standards, *The Multi-Pollutant Report: Technical Concepts and Examples* (EPA 2008), *available at* www.epa.gov/airtrends/specialstudies/20080702_multipoll.pdf.
[27] *Id.* at 1-14.
[28] *Id.* at 3-2.
[29] *Id.* at 5-3. *See also* www.epa.gov/ttn/amtic/ncore/index.html.
[30] *Id.* at 5-5.
[31] *Id.*

2. EPA Multi-Pollutant Pilot Projects

EPA has also undertaken several multi-pollutant air quality pilot projects. The most thorough study has been the Detroit pilot, which was chosen in part for the serious air quality issues in Detroit and for the extensive data sets available there to evaluate air quality impacts.[32] Through the program, EPA found that conducting a multi-pollutant approach to limiting ozone, PM2.5, and certain air toxics was as good as, and in many cases superior to, the "status quo" approach of addressing ozone and $PM_{2.5}$ separately as single pollutants.[33] EPA conducted several other pilot projects as well, although these have not been evaluated as thoroughly.[34] For example, a pilot project in New York uses the NE-MARKAL, CMAQ, and BenMAP models to assess "the impact of various energy strategies on air quality, the economy, the environment and public health . . . [to] determine which control measures will provide the most benefit at the least cost."[35] The plan covers multiple sectors and a total of 18 pollutants, including greenhouse gases.[36]

3. Ozone Advance / PM Advance Programs

Recently EPA has promoted multi-pollutant planning by introducing its "Ozone Advance" program in April 2012 and its similar "PM Advance" program in January 2013. EPA regards these as multi-pollutant programs in that they focus on reducing the multiple precursor pollutants to the formation of ozone and particulates, such as nitrogen oxides, PM (for ozone formation) and VOCs. EPA explains that "reductions in nitrogen oxides (NOx) can lead to lower ambient fine particulate matter levels as well as lower ambient ozone levels."[37] Through these programs, EPA will work with certain states to examine the measures that will maximize multi-pollutant reductions at the lowest cost. To help states in these programs choose control measures that will have a beneficial impact across multiple pollutants, EPA has created a document that catalogues possible control measures for various pollutants, cost efficiency estimates, and the related impact on other pollutants.[38] Further, EPA will help states that participate in both programs to combine their plans into a unified multi-pollutant plan.[39]

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[32] EPA, *Detroit Pilot Program* (2008), *at* www.epa.gov/air/aqmp/pilot.html; www.epa.gov/air/aqmp/tools.html.

[33] Wesson, Karen, et al., *A Multi-Pollutant, Risk-Based Approach to Air Quality Management: Case Study for Detroit*, 1 ATMOSPHERIC POLLUTION RESEARCH 296 (2010). EPA reported that such a multi-pollutant and health "risk-based" approach could: "(1) achieve the same or greater reductions of PM2.5 and ozone at monitors; (2) improve air quality regionally and across the Detroit urban core for multiple pollutants; (3) produce approximately two times greater monetized benefits for PM2.5 and ozone; (4) reduce non-cancer risk; and (5) result in greater net benefits and [those that are] more cost effective." *Id.*

[34] EPA also had pilot projects in North Carolina and St. Louis. North Carolina's pilot program focused primarily on ozone nonattainment and PM2.5, but also incorporated goals to reduced mercury and improve regional haze. *See* www.epa.gov/air/aqmp/pdfs/ aug2010/northcarolinafinalaqmp.pdf. For the St. Louis Program, *see* www.epa.gov/air/aqmp/pdfs/aug2010/stlouisfinalaqmp.pdf.

[35] N.Y. State Dept. of Envtl. Cons., *Air Quality and Management Plan, Final Draft* (2010), *available at* www.epa.gov/air/aqmp/pdfs/aug2010/newyorkfinalaqmp.pdf.

[36] *Id.*

[37] *Ozone Advance*, EPA, http://www.epa.gov/ozoneadvance (last visited Sept. 11, 2013).

[38] For example EPA's "Menu of Control Choices" delineates, for point and non-point PM from the IC Engine-diesel generator source category, that using the control measure of both DPF and Selective Catalytic Reduction would reduce not only PM, but also carbon monoxide, hydrocarbons, and nitrogen

The Ozone Advance and PM Advance programs target only air quality regions that are in attainment to keep these areas in attainment, especially those that are near non-attainment. The programs promote partnership and information sharing between EPA, states and stakeholders, but do not waive any regulatory requirements, unlike some of EPA's previous ozone programs, nor do they alter states' legal responsibilities to submit or implement their SIPs. EPA encourages "SIP quality" modeling and notes that states could use measures developed through the Ozone/PM Advance programs to ultimately qualify for credit in a future SIP if the area falls into nonattainment.[40]

III. SIP CREDIT FOR ENERGY EFFICIENCY AND RENEWABLE ENERGY

In addition to its multi-pollutant focus, IMPEAQ also seeks to maximize air quality by enabling states to conduct cost optimization modeling on a range of control measures. RAP envisions that the IMPEAQ model will expand the range of cost-effective control measures, which may, in turn, call for greater use of energy efficiency and renewable energy (EERE) programs. Although holding great promise as cost-effective air quality solutions, EERE programs require special treatment in order for states to receive SIP credit, given the complications inherent in their monitoring and verification. While in the past there was some question about whether or how states could include EERE measures in their SIPs, EPA supports these efforts and has issued increasing guidance on this issue, as set forth below. Part IV discusses the related question of whether these and other measures can be used not just for SIP credit, but also by sources in lieu of traditional onsite control technologies.

A. EPA Policy on SIP Inclusion for EERE Measures

EPA embraces state EERE policies, since such "demand side management" programs can cost much less than other pollution controls and therefore can "lower compliance costs, reduce ratepayer bills over the long term, and in some cases delay or avoid the need for equipment upgrades or new construction of generating facilities and emissions controls."[41] These measures have truly multi-pollutant benefits, since lowering demand for electricity means less emissions of all the pollutants associated with the

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oxide. Moreover, it lists that these control measures would have 80-90% control efficiency and a dollar-per-ton cost effectiveness of $99,736 - $254,481 per ton when combining the pollutants. By comparison, for the EGU/external combustion boiler source category, EPA lists the cost of onsite energy efficiency programs for external combustion boilers as 2.5 cents/kWh and $0/ton reduced for sulfur dioxide, carbon dioxide and mercury. EPA, *Ozone Advance Air Quality Guidance* (2012), at 43, *available at* http://www.epa.gov/ozoneadvance/resources.html (last visited Sept. 11, 2013).

[39] *Id.* at 3. *See also* EPA, Memorandum by Stephen Page, *PM Advance—Supporting Local Efforts to Improve Air Quality*, Jan. 17, 2013, *available at* epa.gov/pdfs/20130107PMmemo-guidance.pdf.

[40] *Id.* at 5, n.5. In that case the measures could be credited either to lower the state's baseline emissions level, or they could be used to show "reasonable further progress" towards attainment. The state would nevertheless still need to establish that the measures satisfy the Act's SIP requirements by showing the steps are quantifiable, surplus, enforceable, and permanent, as explained in Part III.

[41] EPA, ROADMAP FOR INCORPORATING ENERGY EFFICIENCY/RENEWABLE ENERGY POLICIES AND PROGRAMS INTO STATE AND TRIBAL IMPLEMENTATION PLANS 12 (2010), *available at* www.epa.gov/airquality/eere.html.

incremental energy that otherwise would have been produced to meet that demand. EPA expects these measures to become more important in the SIP process, given that virtually all states have energy efficiency programs and the majority of states also have Renewable Portfolio Standards.[42] To facilitate state EERE policies, EPA has published a "Roadmap" as guidance to incorporate these programs into SIPs.[43] While this guidance does not replace EPA's regulations on SIP approvals and does not create new rules, it nevertheless can help states integrate these policies into air quality planning. The *Roadmap* sets forth four "pathways" by which states can include EERE programs in their SIPs: as a credit to lower baseline emissions, as a control strategy to reduce future emissions, as an emerging/voluntary measure, or via the (zero-credit) "weight of evidence" pathway. The pathway that best suits the state will depend in large part on how established that state's EERE programs are.[44] The amount of credit a state may receive for its EERE programs also depends on the degree to which the programs meet EPA's four SIP criteria, which require that any measure that receives credit must be quantifiable, surplus (not double counted), enforceable, and permanent.

We do not go into great detail here on the EPA's EERE methodologies, as the guidance sets these forth clearly. We do, however, want to flag a few key issues. First, states may not be able to claim SIP credit for the entirety of the emission reductions achieved through their EERE programs. Specifically, voluntary or emerging measures, which are not readily enforceable or quantifiable, may receive only up to six percent of SIP credit.[45] These measures, for instance, may be primarily local in nature or otherwise lack direct enforceability, such as incentives for businesses to increase energy efficiency. Moreover, even for established programs that are legally binding, a state may only receive credit for those programs that it can link to quantifiable emission reductions *within the borders of the air quality district*. EPA and the Clean Air Act require that SIP credit only count for emission reductions that occur in the particular district (or in adjoining upwind states), so reducing *demand* in the air district does not necessarily reduce *emissions* in the district if the area imports electricity. This can pose a hurdle for states that have Renewable Portfolio Standards and/or that use Renewable Energy Certificates (RECs), both of which will not translate into SIP credit unless the state conducts sufficient modeling to show that these measures displace power generation within the district. EPA recognizes the potential difficulty of quantifying these interactions but suggests the problem is surmountable through appropriate modeling, which it clarifies in its guidance.[46]

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[42] *Id. at 13.*
[43] *Id.*
[44] *Id. at 30.*
[45] *Id.* at 30 and C-10. Further, to meet the SIP requirement that measures be "enforceable," voluntary measures must become federally enforceable against the state by being included in the SIP.
[46] EPA suggests states assess "the location and emitting characteristics of the fossil fuel EGUs that have been able to reduce their output as renewable energy resources [are] made available," and it advises states to consult with their regional transmission organization for help in making these determinations. *Id.* at K-34 (*enclosure to advisory letter from EPA to Connecticut Dept. of Environmental Protection*, dated September 30, 2010). Once a state identifies the impacted/displaced in-district EGUs, it then can use standard methodology to calculate the air quality emissions savings from the proposed EERE programs.

Second, states must ensure against double-counting any EERE reductions. EPA guidance requires that the EERE emissions reduction must be "surplus," meaning that the reductions have not already been included in the baseline SIP calculation or used towards other SIP obligations. This surplus rule comes into play especially when the state has a cap-and-trade program in place for a particular pollutant. To the extent that the cap-and-trade program would be used to satisfy other CAA-required pollution reduction requirements, it cannot be counted twice when calculating SIP reductions. To avoid this, EPA suggests that the state retire allocations in the amount used for the EERE program—essentially "lowering the cap"[47]—so that the emission reductions created by these measures do, in fact, result in actual lower emissions, rather than simply creating a tradable allowance that could otherwise be used by another entity in the trading system. In the RPS context, EPA emphasizes in its guidance that regional photochemical airshed modeling is key in this regard.[48]

Finally, EPA requires EERE programs to be "enforceable," which means the EERE measures must be legally enforceable against the state or party upon whom they are imposed. State programs generally satisfy this requirement when they are mandated by state law and have well-defined violations and penalties that can be enforced by the state. For example, an RPS program should be enforceable against those to whom the RPS applies.[49] In this and the analogous REC context, EPA suggests that the state can further show enforceability through "backstop" commitments to purchase the instruments if the locality does not follow through with its purchase. Even voluntary programs may potentially satisfy the enforceability requirement, however, since federal enforceability against the state is created automatically when EPA accepts the provisions that the state includes in its SIP.[50]

B. Examples of SIP Inclusion of EERE Measures

Despite the number of EERE programs in the U.S., relatively few states have used these for SIP credit. EPA's 2012 guidance in its *Roadmap* gives the specifics of some of those programs in which states have done so, including Texas, Louisiana, Connecticut, Maryland and New Mexico. Notably, only the Texas SIP cited by EPA has used EERE measures as an air quality "control measure" under the Act,[51] though the Agency points to promising programs in Connecticut[52] and New Mexico[53] that could be designed to

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[47] *Id.* at C-6.
[48] *Id.*
[49] *Id. at F-8, K-36.*
[50] *Id.* at F-8. Indeed, "federal enforceability is key to EPA being able to provide expanded SIP credit for these programs." *Id.* at K-36.
[51] To lower emissions due to its 8-hour ozone nonattainment, Texas passed a law that government entities in nonattainment counties must reduce electricity by five percent, which the Dallas-Fort Worth district accomplished through energy efficiency programs in new housing. EPA approved this as a control measure, giving credit for 0.72 tons per day of reduced NO_x. 73 Fed. Reg. 47835 (August 15, 2008). *See also* ROADMAP, *supra* note 41, at K-8.
[52] EPA has lauded Connecticut's emerging EERE program for its potential to receive future credit under the Control Measure pathway. The State's RPS requires quarterly accounting and annual reporting to ensure the RPS has been fulfilled, and its energy efficiency programs are included in its "forward capacity market"

likewise qualify as control measures in future SIPs. In contrast, Maryland and Virginia have used voluntary EERE programs to show the requisite "rate of progress" for their SIPs, through the use of wind-power purchases, low-VOC paint programs by state/local agencies and gas-can replacement programs.[54]

IV. FLEXIBILITY IN ADOPTING EMERGING SOURCE CONTROL MEASURES

While states have wide discretion in the mix of control measures they may include in their SIPs to achieve federal air quality standards, as discussed above, this discretion may be constrained somewhat by the Act's Title V provisions. Title V requires state permit programs to impose statutory emission standards or "control technology" on sources. The law is relatively untested, however, as to the degree to which states may adopt novel permitting policies to allow sources to use emerging approaches to reduce emissions.

There are two ways that sources might use EERE to reduce emissions: (1) *onsite*, such as through employing increased efficiency rather than traditional end-of-the-pipe-type controls, or (2) *offsite*, through investing in RE or end-user EE *in lieu of* undertaking emissions control measures at the source itself. The first option of onsite measures appears to be fully supported by EPA's current policy. In the BACT context, for example, EPA guidance encourages sources to meet BACT through efficiency measures at the facility, either with efficiency gains in the operating unit itself or with plant-wide energy efficiency measures, including low-tech options such as energy efficient lighting. This is merely an extension of the plant-wide analysis previously allowed by the Supreme

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system, which provides payments for EE savings and similarly demonstrates verifiability and accountability. ROADMAP, *supra* note 41, at K-34, K-35.

[53] New Mexico has worked with EPA since 2010 to assess including its EERE measures in a future possible ozone SIP or maintenance SIP, since at that time it was in attainment. Relying on the State's mandated RPS and Energy Efficiency Resource Standard (EERS), as well as bond financing for EERE improvements to state and municipal facilities, EPA has set forth the steps by which New Mexico could receive SIP credit for the resulting emissions reductions. EPA has suggested that statewide EERE measures can be included, even if they are not within the air quality district, as long as they "cause a reduction in emissions from EGUs that impact [the district]." *Id.* at Table 2, K-18.

[54] 70 Fed. Reg. 24987 (May 12, 2005). Other states have used voluntary programs under the 'weight of evidence' pathway for SIP inclusion but not SIP credit. For example, Connecticut's 2007 8-hour ozone SIP that used voluntary programs to increase high-efficiency air conditioners, distributed energy, efficient lighting, and combined heat and power (CHP) to reduce peak demand in summer. ROADMAP, *supra* note 41 at K-10; *see also* www.ct.gov/dep/lib/air/regulations/proposed_and_reports/section-8.pdf. Similarly, Maryland is considering using its state-legislated EERE policies in future 8-hour ozone SIPs to show air quality efforts that cannot be quantified through traditional photochemical modeling, though this pathway does not result in SIP credit. Using the NE-MARKAL integrated planning model, it will seek to "develop[] a least-cost optimized linear programming model..for examining energy policy options" and the impact on air quality. Phase I of its assessment examines the impact of RGGI and the State's "Clean Cars" program. ROADMAP, *supra* note 41, at K-10 and K-15. EPA further points to other measures, such as those for storm water management, which could be potentially used to obtain SIP credit. A district's storm water mitigation—such as permeable surfaces, green roofs, and extensive tree-planting—could result in less emissions in the district through less pumping during storms, thus leading to lower electricity generation.

Court in *Chevron v. NRDC* to evaluate net emissions from the entire source when determining if a plant modification triggers permit review.[55]

The harder question addressed below, however, is whether states may use flexible *offsite* programs in their permit programs instead of traditional onsite control technology. For example, upon using IMPEAQ to conduct an assessment of the most cost-effective control measures to reduce emissions, states may find that offsite demand-side measures or market trading programs yield the most cost-effective emission reductions compared to site-specific technology controls. Along these same lines, NRDC has proposed a plan for reducing carbon emissions from existing sources by setting state-specific "fleet wide" emission standards, which sources can meet with offsite measures, such as by averaging emissions across EGUs, using energy efficiency credits or shifting to more renewable sources of energy production.[56] States will likely have increased interest in allowing sources to use such flexible mechanisms to achieve CAA compliance, particularly as emission standards get more stringent.

It is an open issue as to whether states can legally allow sources to use these offsite measures to meet the CAA's emission limits on individual sources. On the one hand, it is clear that (a) the Act requires states to enact permit programs that impose emission limits on sources, and (b) these limits must produce emission reductions within the air quality district.[57] On the other hand, it is unclear whether the control methods that states or sources choose to achieve these limits must result in emission reductions specifically at the source, or instead can simply reduce emissions within the air quality district as a whole.

Case law in the market trading context supports greater state flexibility in this area, but does not resolve the issue. Assuming courts do not interpret the Act to strictly require states to impose only *onsite* technology controls on sources, as discussed below, the Act's source emission standards appear flexible enough to give states leeway to use offsite control measures that result in equivalent emission reductions within the district, although not necessarily at the individual source. This reading of the Act is supported by the traditional deference given to states in developing their air quality programs, which should extend from the SIP context to include deference to states in their permit programs. Further, as set forth below, in the market trading context appellate courts and EPA have previously taken the expansive view that offsite measures can satisfy the Act's source-specific RACT and BACT technology requirements, even where the market measures did not result in reductions at each particular source. Most cases in the market

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[55] *Chevron v. NRDC,* 467 U.S. 837 (1984). *See infra* discussion at text accompanying note 80.

[56] NRDC, CLOSING THE POWER PLANT CARBON POLLUTION LOOPHOLE: SMART WAYS THE CLEAN AIR ACT CAN CLEAN UP AMERICA'S BIGGEST POLLUTERS 11-12 (2012), *available at* www.nrdc.org/air/pollution-standards/files/pollution-standards-report.pdf.

[57] This paper does not address the question of whether this 'in-district' limitation applies equally to the emerging area of greenhouse gas (GHG) emission limits. Since GHGs are globally dispersed and cause harm on a global rather than local scale, they stand in contrast to other criteria pollutants that adversely impact health in close geographic proximity to the source from which they are emitted.

trading context have nevertheless not squarely ruled on this issue, so this remains an open question.

Given this uncertainty, this is an area that warrants further exploration and one in which further guidance from EPA may be helpful. If the Agency supports states using these new approaches in their permit programs to meet statutory emission limitations, it could more clearly formalize this policy by issuing guidance or regulatory clarification on this issue.

Below we explain the statutory requirements, relevant judicial case law and EPA policy on this question of the degree to which states may allow sources to use offsite measures to satisfy the Act's source-specific emission standards.

A. <u>Source Emission Limits and Technology Standards Required Under the Act</u>

The first place to look to assess the question of offsite control measures is the language of the Act itself. The Act's Title V permit provisions establish general emission standards applicable to major sources and give states both the authority and obligation to implement permit programs to ensure that sources comply with these emission limitations. In determining what control measures a state may allow (or must require) in its source-review permit programs, it is important to recognize that while the Act's permit requirements are often generally referred to in lay terms as source "technology controls," in fact they are emission *standards* which do not require particular technology, as explained below. Even the few areas of the Act that label these standards as "technology" requirements do not, in fact, call for any specific type of technology. Moreover, as Part B describes below, courts and the EPA have broadly construed even this "technology" terminology to allow for offsite measures in the market trading context. As a result, the Act's broad language for source controls should favor states' flexibility to choose their own control measures, offsite or not, that best meet their air quality goals.

The source control standards contained in the Act are as follows:

- <u>New Source Performance Standards</u>: The Act sets NSPS standards for new and modified sources (and for existing major sources, through states) at "the degree of the emissions limitation achievable through the application of the best system of emission reduction."[58] While the NSPS may

[58] The Act defines the requisite standard of performance, for both new, modified, and existing sources, as "*the degree of the emissions limitation achievable through the application of the best system of emissions reduction* which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated." CAA § 111, *codified at* 42 U.S.C. §7411(a)(1) (emphasis added). By comparison, EPA explains that BACT standards are usually much more stringent than these NSPS "BSER" standards. EPA, *Module 7 Training to Title V,* www.epa.gov/apti/bces/module7/title3/title3.htm. The CAA's NSPS provisions require EPA to set mandatory national emissions standards for new or modified major stationary sources of emissions which "cause[], or contribute[] significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. §7411(b)(1). *See also* § 7411(a)(2)-(4) (defining "new source" to include modifications that increase emissions).

sometimes be referred to informally as a "technology standard," in fact the Act does not allow EPA to require specific control technology in setting the NSPS.[59] Of course, in practice a stringent NSPS emissions standard could have the same effect as dictating the control technology, as when, for example, the source can likely only achieve that degree of emission reduction by using a particular type of technology.[60] States nevertheless remain free to develop their permit programs to allow other ways for sources to attain the emission limit. States have further discretion in that they have the option of developing their own permit procedures in their SIPs to implement and enforce the federal NSPS for new and modified sources, which they already must do for existing sources.

- Prevention of Significant Deterioration: The permit provisions for attainment regions also mandate, under Section 169's provisions for the Prevention of Significant Deterioration (PSD),[61] that state PSD permit programs require the "best available control technology" (BACT) for major new or modified stationary sources.[62] While this terminology is worded as a control "technology," the Act defines BACT as not a technology *per se*, but rather as an "emissions limitation" standard: "the maximum degree of reduction" the state determines is achievable for the facility.[63] The statute defines these technologies to include examples such as "fuel cleaning…or innovative fuel combustion techniques," but there is

[59] CAA § 111, *codified at* 42 U.S.C. §§ 7411(a)(7), 7411(b)(5). There is one exception to this statement: § 7411(h) allows the Administrator to promulgate a "design, equipment, work practice, or operational standard" in those cases where a standard of performance "is not feasible."

[60] For example, EPA's proposed NSPS for GHG emissions from EGUs establishes an emission standard for EGUs that essentially requires CCS for coal-fired plants. *See* EPA, *Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units, Part II, Proposed Rule*, 77 Fed. Reg. 22392 (April 13, 2012).

[61] Even where an air quality district has attained the NAAQS, the Act's Section 161 PSD provisions require the state to implement a plan to assure continued future attainment: "[i]n accordance with the policy of section 101(b)(1) [42 USCS § 7401(b)(1)], each applicable implementation plan shall contain emission limitations and such other measures as may be necessary, as determined under regulations promulgated under this part [42 USCS § 7470 et seq.], to prevent significant deterioration of air quality in each region (or portion thereof) designated pursuant to section 107 [42 USCS § 7407] as attainment or unclassifiable." CAA § 111, *codified at* 42 U.S.C. § 7471.

[62] CAA §§ 165, 169, *codified at* 42 U.S.C. §§ 7475(a)(4), 7479 (1)(c) (applying § 7475(a) to modified major sources).

[63] Section 169 of the Act defines BACT as:

> the maximum degree of reduction of each pollutant subject to regulation under this Act emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant.

42 U.S.C. § 7479(3). Further, BACT must be at least as stringent as the NSPS and HAP standards, and EPA has explained that BACT standards are usually much more stringent than NSPS standards. EPA, *Module 7 Training to Title V, at* www.epa.gov/apti/bces/module7/title3/title3.htm.

no statutory bar to a state broadly defining "methods, systems and techniques" to also include emerging offsite measures. Further, the Supreme Court held in *Alaska v. EPA* that the Agency has a "limited" role in reviewing a state's individual BACT determination when issuing permits.[64] While EPA may intervene to stop construction under a PSD permit where the state has made an unreasonable BACT determination, the Act "leaves the [state] permitting authority considerable leeway" and requires EPA to "accord 'appropriate deference' to States' BACT designations."[65]

In addition, the Act's related regional haze provisions, which are applicable to emissions impacting 'Class I' national park areas, require certain existing sources to use the "best available retrofit technology" (BART).[66] Although similarly labeled as a "technology" requirement, Part B below discusses how EPA has treated this as an emission standard to justify offsite control measures in the market trading context, rather than a bright-line rule that requires onsite control technology.

- <u>Nonattainment regions</u>: For air quality districts that are in nonattainment, states must develop permit programs in their SIPs that require the "lowest achievable emission rate" (LAER) for new and major modified stationary sources and "reasonably available control technology" (RACT) for existing sources.[67] LAER is an emissions standard and thus is not tied to any particular technology,[68] as long as the end result achieves the desired reduction in emissions within the district. This should give each state the ability to choose the control measures it thinks will best meet the standard. In contrast, RACT is termed as a control "technology," but in practice this

[64] 540 U.S. 461 (2004).
[65] *Id.* at 490-91.
[66] CAA § 169A, *codified at* 42 U.S.C. §§ 7491(b)(2)(A), 7491(g)(2).
[67] Section 172 of the Act also mandates the "implementation of all reasonably available control measures as expeditiously as practicable…to provide for attainment of the national primary air standards." 42 U.S.C. §7502(b). Nonattainment SIPs must also provide for "reasonable further progress" towards attainment of the NAAQS, a "current inventory of actual emissions from all sources of the relevant pollutant," quantification of allowable emissions from major new or modified stationary sources, construction and operating permits for these sources, other "enforceable emissions limitations, and such other control measures, means or techniques (including economic incentives such as fees, marketable permits, and auctions of emission rights)" to provide for attainment, as well as contingency measures if the area does not make reasonable progress. 42 U.S.C. §7502(c)(1)-(9).
[68] Section 171 of the Act defines LAER as:

> [T]hat rate of emissions which reflects[:] (A) the most stringent emission limitation which is contained in the implementation plan of any State for such class or category of source, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable, or (B) the most stringent emission limitation which is achieved in practice by such class or category of source, whichever is more stringent.

42 U.S.C. § 7501(3). *See also* 42 U.S.C. §7503(a)(2) (setting forth permitting requirements in nonattainment areas for new and major modified stationary sources).

is a distinction without a difference. First, states retain the ability to decide which technology to use to satisfy RACT, and many offsite control measures should qualify broadly as "technology." Second and more importantly, Part B below discusses how courts and EPA have previously taken a broad view of RACT to allow offsite measures such as market trading.

- Hazardous Pollutants – The Act also requires source controls for hazardous pollutants under its NESHAP provisions. For new and existing sources, these federal standards must be set at the "maximum degree of reduction in emissions,"[69] which is generally referred to as "MACT."[70] While this standard requires a certain level of emissions rather than a particular technology, in other areas the NESHAP provisions refer to a "technology" standard, though in fact the Act does not require any specific technology. For example, new or modified sources may receive a permit only if they demonstrate the "maximum achievable control technology," as determined on a case-by-case basis.[71] In addition, for "area sources" EPA may require "generally available control technology" (GACT) or particular management practices to reduce emissions in lieu of the performance standards.[72]

In this way, although the Act contains terminology for both emission limits and "technology" controls to curb emissions from individual sources, source controls under the Act's permit provisions generally require only standards for emission limits, rather than particular technologies. This, in turn, supports the position potentially advocated by RAP that states should have the ability to choose cost-effective measures—including flexible, offsite emission reduction programs, such as RPS/REC programs or other demand-side EERE measures—provided these attain emission results in the air quality district that are as good as, or better than, traditional onsite control technology.

B. Case Law on BART and RACT Source Controls

The argument for the flexibility of states to opt for new types of offsite regimes as "source controls" is bolstered by the fact that even the Act's control standards that are facially labeled as "technology" requirements have been construed to allow offsite measures. As discussed below, in the market trading context appellate courts and EPA have taken a broad view of what can satisfy RACT and BART source controls. This suggests that states can meet these standards with offsite measures that do not specifically

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[69] CAA § 112(d)(2), *codified at* 42 U.S.C. § 7412(d)(2).
[70] This standard must take cost into account, but EPA also must set a minimum floor (the "MACT floor") irrespective of cost. For new sources the MACT floor represents "the emission control that is achieved in practice by the best controlled similar source. 42 U.S.C. § 7412(d)(3). The floor for existing sources may be less stringent, but must at least meet "the average emission limitation achieved by the best performing 12 percent of the existing sources" (or best performing five sources if the category has less than 30 sources). *Id*.
[71] *Id.* § 7412(g).
[72] *Id.* § 7412(d)(5).

reduce emissions at each individual source but, rather, collectively reduce emissions in the air quality district as a whole.[73] Although courts have not squarely ruled on this question of offsite measures as source controls under the Act's Title V permit requirements, they appear to accept this general premise, as described below. Under the rationale put forth by EPA, sources remain technically subject to the Act's source-specific emission limitations, such as BART, but they can satisfy those limitations either by direct application of source-specific technology standards or by participation in alternative programs such as market trading.[74] Presumably this rationale should extend equally to other offsite measures, such as RPS and REC programs or other EERE measures.

In the context of BART standards, several courts have accepted the principle of "better than BART" alternatives to site-specific controls. In *Center for Energy and Economic Development v. EPA (CEED)*, the D.C. Circuit found it reasonable for the Agency to interpret that source-specific BART controls were unnecessary where there were alternatives in place that "would achieve greater progress than BART."[75] The court

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[73] While many of EPA's regulatory market trading programs have been criticized or vacated by courts, these rulings have been on unrelated grounds. The cases on EPA's CAIR and NO_x "SIP Call" cap-and-trade provisions for NO_x and SO2 are instructive. Although the D.C. Circuit in *NRDC v. EPA* struck down these rules, the court did so in the NO_x SIP Call context on grounds that it violated the plain language of the CAA's nonattainment provisions because the Act requires control measures from within the nonattainment region, while the cap-and-trade provisions allowed for trading beyond the borders of the air quality region. Significantly, however, the court stated that EPA's determination—that RACT would be best achieved through cap-and-trade—would otherwise have been valid. *NRDC v. EPA*, 571 F.3d 1245 (D.C. Cir. 2009) (stating that "participation in the NOx SIP Call could constitute RACT only if participation entailed at least RACT-level reductions in emissions from sources within the nonattainment area"). A rationale similar to the holding in *NRDC v. EPA* was used by the D.C. Circuit in invalidating EPA's CAIR cap-and-trade program, which failed for not addressing the statutory requirement that each state only be responsible for limiting its own share of emissions that "significantly contribute" to downwind nonattainment. *North Carolina v. EPA*, 531 F.3d 896, 906-08 (D.C. Cir. 2008). For cap-and-trade in the context of hazardous pollutants (HAPs), *see New Jersey v. EPA*, 517 F.3d 574 (D.C. Cir. 2008) (vacating EPA's mercury cap-and-trade rule (CAMR) for EGUs under CAA § 111 NSPS, given that EGUs had not been properly delisted and thus could only be regulated under the more stringent HAP rules in § 112).

[74] 71 Fed. Reg. 60612, 60620 (Oct. 13, 2006) (revisions to Regional Haze Rule). The Regional Haze rule states as to BART:

> A State may opt to implement or require participation in an emissions trading program or other alternative measure rather than to require sources subject to BART to install, operate, and maintain BART. Such an emissions trading program or other alternative measure must achieve greater reasonable progress than would be achieved through the installation and operation of BART.

40 CFR § 51.308(2). *American Corn Growers v. EPA* rejected an earlier version of the rule, finding that it impermissibly interfered with states' authority to make case-by-case BART determinations through their permit programs. 291 F.3d 1 (D.C. Cir. 2002). Specifically, the court rejected EPA's "group BART" determination that a state must require all eligible sources to apply BART if the state found that the 'collective contribution' of all sources using BART would reduce regional haze; the court rejected this because it did not allow states to conduct source-by-source, individualized assessment of each source's ability to use BART controls or its contribution to regional haze. *Id.* at 20-21. EPA thereafter revised its Regional Haze rules, first in 2005 and again in 2006. *See* 70 Fed. Reg. 39104 (July 6, 2005).

[75] 398 F.3d 653, 661 (D.C. Cir. 2005). The *CEED* court stated:

relied on the Ninth Circuit holding in *Central Arizona Water Conservation District v. EPA (CEED)*, which approved "EPA['s] [choice] not to adopt the emission control limits indicated by BART analysis, but instead to adopt an emission limitations standard that would produce greater visibility improvement at a lower cost."[76] In a second case, the D.C. Circuit ruled under a similar rationale to uphold EPA's decision to allow states to satisfy BART through participation in the CAIR market trading program, stating that "we have already held in *CEED* that EPA may leave states free to implement BART-alternatives so long as those alternatives also ensure reasonable progress."[77]

The D.C. Circuit has supported the same rationale in the RACT context. In *NRDC v. EPA*, the court stated that EPA's determination that RACT would be best achieved through cap-and-trade would otherwise have been valid, were it not for unrelated deficiencies in the Agency's NOx "SIP Call" market trading program.[78] EPA has similarly adopted an expansive view of RACT in the context of discretionary Economic Incentive Plans (EIPs). Though these have typically been used for voluntary SIP programs rather than to supersede statutory emission standards or permitting requirements, EPA's 2001 guidance states that such programs may be used to meet RACT by "allow[ing] sources subject to RACT to avoid *direct application* of RACT technology" by trading with other sources within the district.[79]79 Further inquiry may determine to what extent EIPs have been used in practice in lieu of "direct RACT" and whether this still reflects current EPA policy.

C. Statutory Construction Caveat

The potential flexibility of states to allow sources to use offsite measures to meet the Act's technology standards is qualified by the possibility that a court could interpret the plain language of the Act to require only source-specific, *onsite* technology controls. For example, even if offsite measures in fact result in more cost-effective emission reductions compared to site controls, allowing offsite programs rather than site-specific control technologies may strain traditional notions of what constitutes a source-specific "control measure." Indeed, it is hard to imagine that there would not be significant objection to a permit program that could authorize a major modification of a coal-fired EGU without traditional site-specific technology controls if the company opts to fund more cost-effective emissions reductions through offsite measures such as weatherization

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If WRAP's alternatives would achieve greater progress than BART, then BART would not be 'necessary to make reasonable progress.' *CEED* thus shows neither that Congress's language precluded non-BART alternatives—where BART wasn't 'necessary to make reasonable progress'—nor that EPA's reading is otherwise unreasonable. *Id.* at 661. EPA has noted that the Ninth Circuit upheld this reading in *Central Arizona Water Conservation District v. EPA*, 990 F.2d 1531, 1543 (9th Cir. 1993).

[76] 990 F.2d at 1543.

[77] *Utility Air Regulatory Group v. EPA,* 471 F3d. 1333, 1340 (D.C. Cir. 2006).

[78] *NRDC v. EPA*, 571 F.3d 1245 (D.C. Cir. 2009) (stating "participation in the NO_x SIP Call could constitute RACT only if participation entailed at least RACT-level reductions in emissions from sources within the nonattainment area").

[79] EPA, *Improving Air Quality with Economic Incentive Programs*, at 239 (2001) (emphasis added), *available at* www.epa.gov/ozoneadvance/pdfs/eipfin.pdf.

or efficiency programs.[80] States that test this approach may therefore expose themselves to litigation from groups arguing that it undermines the current system of control measures. Further, we imagine that there may be potential hotspot issues raised by such a permit program.

Although several federal appellate cases seem to accept that sources may satisfy the Act's technology requirements by participating in market trading programs rather than using onsite measures, the Supreme Court has not ruled on this. Moreover, the D.C. Circuit cases that have condoned a broad view of RACT and BART did not squarely rule on the issue, so it is possible that the D.C. Circuit could still strike down these interpretations, given that at times it has been prone to invalidate EPA restrictions that it finds violate its reading of the literal terms of the statute.

The closest related case that has come before the Supreme Court is *Chevron v. NRDC*.[81] Though this seminal case is known for its key holding that accords deference to agency interpretations of statutory provisions that are otherwise ambiguous, the Court specifically upheld deference to EPA's decision to adopt a broad view of "source" under its NSPS regulations to allow a plant-wide or "bubble" analysis. This interpretation allows facilities to offset emissions from the same source when determining whether a modification will result in new emissions to trigger the permit process. This case does not address the distinct question here, however, of whether sources may offset reductions in emissions from offsite measures.

Given that the Supreme Court has not ruled on this, a lower court could potentially interpret the structure of the Clean Air Act's permit program and technology control provisions to find that it would violate the plain language and statutory intent of the Act to allow states to broadly exempt sources from site-specific technology controls. Even though the Act gives states deference to devise ways to meet federal air quality standards, it is possible for a court to interpret that this comes only *after* the state imposes minimum source control requirements. Under this rationale, a court could potentially find that it would equally violate the Act for a state to essentially waive the standards by defining "source controls" so loosely, or so geographically broadly, as to allow sources to continue to emit pollutants without installing minimum onsite technology controls. In this situation, the offsite measures would only be allowable *in addition* to onsite controls, but not in place of them.

Looking to the wording of the Clean Air Act, both general and nonattainment SIPs could be read to potentially require a minimum of onsite source technology controls and to allow additional measures (such as demand-side measures or market trading) only as may be necessary to further reduce emissions. For example, the Act mandates that nonattainment plans must include "enforceable emission limitations" (presumably RACT at minimum for existing sources) "*and* such other control measures, means or techniques

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[80] Of course, the possibility of utilizing such a flexible permit program may be constrained where the EPA has used its NSPS authority to designate a design, equipment, or operational standard in lieu of a performance standard. *See supra* n. 59 & CAA § 111(h), *codified at* 42 U.S.C. §§ 7411(h).

[81] 467 U.S. 837, 859-66 (1984).

(including economic incentives such as fees, marketable permits, and auctions of emission rights)…as may be necessary or appropriate to provide for attainment."[82] The use of the word "and" instead of "or" could be interpreted that the Act allows states to use other measures such as economic incentives in addition to—*but not in lieu of*—source emission control limits. Under this interpretation, a state could use market trading or other offsite programs only for emission reductions beyond those already achieved through onsite technology measures.

D. EPA Policy on Offsite Source Control Measures

Assuming that courts do not interpret the Act in this manner to categorically ban offsite source control measures, as they have not yet done, EPA policy is important to clarify to what degree offsite control measures may satisfy the Act's stationary source control limits. To the extent this is uncertain or ambiguous in the Act, courts will give EPA's policy deference. It is unclear, however, what stance EPA will take on offsite source control measures, despite the Agency's past positions that have taken a broad view of source controls in the market trading context.

There is a strong argument that offsite measures are indistinguishable in result from onsite efficiency gains, where they likewise directly reduce emissions at the source. However in the EGU context, except in limited circumstances, we assume it might be exceedingly difficult to model how EERE policies will directly reduce emissions *at a particular plant*.

A more difficult question is what stance EPA will take as to offsite control measures that reduce emissions in the air quality district, but not at the source. EPA's past policy in the market trading context, discussed above in Part B, reflects the view that the Agency may support novel ways to maximize emission reductions—however they are attained, whether at the source or not, and regardless of whether the measures ultimately reduce emissions at the individual source. At a minimum, current rules require that control measures must reduce emissions to improve air quality *within the air quality district*[83] (or, in some cases, in the upwind state).[84] For EGU source control measures, it could prove challenging to show definitive in-district emission reductions resulting from EERE programs where districts import energy and/or participate in larger wholesale

[82] CAA § 173, *codified at* 42 U.S.C. § 7502(c)(6) (emphasis added) (non-attainment SIPs). *See also* CAA § 110, *codified at* 42 U.S.C. § 7410 (general SIPs).

[83] This applies at minimum to those pollutants that have deleterious impacts in close geographic proximity to the source, but it remains to be seen how this will apply to GHGs, which have global rather than local impacts. *See supra* note 57.

[84] Presumably even offsite measures in areas outside the district could qualify, if those areas purchase power from the district and the source facility or permitting agency can demonstrate through modeling that those measures trace to a reduction in emissions within the district by lowering demand at the in-district EGU. Further, the Act's PSD and regional haze provisions require states to curb their emissions that significantly impact attainment or the PSD requirements in downwind air quality districts. In these situations, there is therefore an argument that offsite measures should qualify even if they do not result in within-district reductions, as long as they otherwise result in necessary emission reductions in the downwind air quality district. For example, in this scenario purchasing RECs that impact emissions in either the source's own district *or in the impacted downwind district* should conceivably suffice.

markets. EPA guidance in the SIP context suggests improvements in modeling may enable districts to better quantify the extent to which demand-side measures can be linked to emission reductions within the district.[85]

On this issue, in the past EPA has justified not requiring site-specific technology controls where offsite measures have sufficiently reduced emissions, under the rationale that additional site controls would be "unreasonable" to impose or "not reasonably available" as a control option.[86] Similarly, in the arena of statutory market trading for ozone precursors in districts that are in severe or extreme ozone nonattainment, EPA has taken the position for these Economic Incentive Programs (EIPs) that offsite emission offsets obtained by a source constitute RACT for that source.[87] In 2001 EPA extended this rationale to discretionary EIPs, finding that such trading programs did not waive RACT but instead were an "indirect application of RACT."[88]

In these ways, EPA's past guidance demonstrates that in many instances the Agency has taken a broad view of the source-specific permit provisions that the Act otherwise labels as "technology" standards. That is not to say, however, that EPA will continue to take this position, or that there may never be a case in which EPA regulations might ban the use of offsite EERE as a source compliance strategy. For example EPA's 2012 NSPS rules for coal-fired EGUs require monitoring devices so that "no owner or operator of an affected facility…shall cause to be discharged into the atmosphere from that affected facility, any gases that contain SO2 in excess of the applicable emissions limit."[89] A source's emissions would not necessarily decrease, however, with certain offsite measures, so provisions such as this may interfere with a state's attempt to offset emissions through offsite control measures.

To clarify this question, states may want to consult with EPA as to the Agency's current position on whether offsite control measures that reduce emissions in the district may satisfy source-specific emission reduction requirements. Regardless of whether EPA takes a position, however, states still have legal space to forego traditional onsite controls in favor of new approaches to reduce emissions, given the deference courts give to states in developing their air quality plans. States have a credible argument that offsite programs should qualify, as long as they (1) result in quantifiable, permanent and enforceable emissions reductions in the air quality district and (2) are as effective as traditional onsite control measures.

[85] *See supra* text accompanying note 46.
[86] *See supra* text accompanying notes 75-77.
[87] *See supra* note 75. *See also* 42 U.S.C. § 7511a(g)(4); EPA, *An Overview of the Regional Clean Air Incentives Market* (2006) (examining Southern California's NOx and SO2 "RECLAIM" trading program to lower VOCs in extreme ozone nonattainment region).
[88] *Id. See also supra* text accompanying note 79.
[89] 40 CFR § 60.43Da(i). *See also* 77 Fed. Reg. 9304, 9451 (Feb. 16, 2012).

CONCLUSION

For the reasons set forth above, we do not foresee any major statutory or regulatory barriers to states voluntarily adopting the proposed IMPEAQ approach to air quality planning, particularly given the Clean Air Act's deference to states to meet their federal air quality obligations. Indeed, EPA favors a multi-pollutant approach and likely would support IMPEAQ, although the Agency lacks statutory authority to require states to adopt IMPEAQ to the extent this may interfere with states' discretion to adopt their own air quality planning. EPA could nevertheless provide guidance to states on how to implement IMPEAQ, and states could ask EPA to provide further guidance on the way in which various emission reductions and control measures impact other pollutants.

To the degree that states use the IMPEAQ approach to choose energy efficiency and renewable energy programs as the most cost effective control measures to reduce emissions, states can receive SIP credit for these measures if they follow the Act's requirements by showing that the emission reductions are quantifiable, not double-counted ("surplus"), enforceable and permanent. States may further authorize onsite EERE or other emerging programs as source-specific control measures in permitting, though it is not yet clear to what extent states may permit sources to use *offsite* measures in lieu of traditional site-specific measures. States have an argument for doing so where they can demonstrate that such programs result in an emissions reduction at least as stringent as the standards required under the Act.

In sum, IMPEAQ represents a viable planning approach for states to voluntarily adopt for integrated, multi-pollutant air quality planning. The proposed general framework is allowable under the Clean Air Act and is consistent with EPA's policy that favors multi-pollutant analysis and encourages the use of cost-effective measures to improve air quality.