As LegalPlanet reported earlier this week, EPA has released a proposed rule to regulate carbon dioxide (CO_2) emissions from existing power plants under Clean Air Act § 111(d). **You can read the full text of the proposed rule** here. The rule would have the overall effect of reducing CO_2 emissions from existing power plants or "electric generating units" (EGUs) in the United States 30 percent below 2005 levels by 2030. *See* prior LegalPlanet posts here, here, here, and here for more information about the rule, its effects, and the relevant legal context.

Those of us at UCLA's Emmett Institute on Climate Change and the Environment have been diligently working our way through the 645-page proposed rule text and hundreds of pages of accompanying technical support documents.

Below, I offer the first in what will be a series of posts offering some initial insights and observations, and posing several open legal questions for further conversation. Over the course of this series of posts, I welcome our knowledgeable and insightful LegalPlanet audience to join the dialogue in the comments. **What strikes you about the proposed rule? What legal questions puzzle you? What are your thoughts on the below issues?**

The state goals are written as emission rates, but encompass reductions in both emission *intensity* and *volume*, and therefore are still vulnerable to legal challenge. EPA defined the BSER to include reductions in the emission rate of any particular EGU (i.e., lbs CO_2 /MWh) as well as reductions in emission volume or mass (i.e., "reducing the units' CO_2 emission total to the extent that generation can be shifted from higher-emitting fossil fuel-fired EGUs to lower- or zero-emitting options") (p. 30). Accordingly, EPA is proposing that states could submit a plan that includes a "portfolio" of measures that apply to EGUs directly as well as measures that apply to other entities but have the effect of reducing the volume of emissions from—but not the emission intensity of—EGUs (*see* pp. 116-17). The emission targets assigned to each state are "adjusted" rates, such that they account for avoided generation as well as emission intensity improvements. Essentially, EPA has assigned each state an electricity sector emission cap disguised as an emission rate. The evidence is in EPA's use of the word "adjusted" to describe the proposed state goals (p. 346, tbl.8; *see also* p. 349). EPA contemplates that states would be able to translate the assigned rate-based goal (lbs of CO_2 /MWh) into a mass-based cap on the state's total tonnage of CO_2 emissions (p. 339). According to EPA, translating to mass-based caps would facilitate existing regional trading programs such as RGGI and encourage the creation of new regional programs (pp. 359-60).

Assuming that EPA chose to write the goals as rate limits in order to withstand enforceability-related legal challenges, are these caps-disguised-as-rates really any less vulnerable to legal challenge? My view is that the state targets as written are just as vulnerable, and in the same ways, as mass-based targets would be. The real legal vulnerabilities are allowing grouping, designating a portfolio of programs including outside the fenceline reductions as BSER, and allowing states to include measures in a state plan for which EGUs are not responsible (in other words, everything except block 1)—regardless of whether those things lead to calculation of a rate-based or mass-based standard.

What is the significance, then, of the fact that EPA chose to issue its targets in a rate-based instead of mass-based format? Michael Wara has suggested that the rate-based calculation will be more challenging to model and likely more subject to gaming and compliance manipulation than would a mass-based standard. Indeed, the conversion between rate-based standards and mass-based standards and the incorporation of outside the fenceline measures into an adjusted rate are not as simple as it might seem from reading the proposed rule text. The State Plan Considerations TSD contains more details about how states would accomplish this task, and the modeling described would be a heavy lift for the most skillful modelers, let alone state agencies. Additionally, Michael notes there are disagreements among modelers about the best methods for converting between adjusted rates and mass-based standards. *Given all of these challenges on top of the fact that the adjusted rates seem no more legally defensible than emission caps, should EPA instead issue mass-based targets for each state?* We can look forward to many technical comments about rate-based vs. mass-based standards.

Nuclear power plays a significant role in achieving emission reduction goals. Throughout the proposed rule, EPA acknowledges the important role of "clean" nuclear power in achieving the state goals. Specifically, EPA's building block 3 analysis assumes that states will be "completing all nuclear units currently under construction, [and] avoiding retirement of about six percent of existing nuclear capacity" (p. 114). Additionally, EPA notes that policies that "discourage premature retirement of nuclear capacity" (p. 152) and "retain[] the estimated six percent of nuclear capacity that is at risk for retirement" support emission reduction (p. 217).

EPA finds that the challenge of nuclear waste disposal, contamination risks, and other environmental impacts associated with nuclear power are outweighed by its clean energy benefits. This finding is particularly noteworthy given that a portion of the aging U.S. nuclear fleet is up for relicensing, subject to new once-through-cooling requirements, and/or subject to updated safety requirements post-Fukushima. Here in California, there is ongoing debate over what to do with PG&E's Diablo Canyon nuclear generating station, which

provides ~2160MW of baseload electricity, but kills 1.5 billion fish larvae per year through once-through-cooling with ocean water and is located near multiple fault lines. Any major fixes to address these issues could be incredibly expensive. *What role should nuclear power play in section 111(d) carbon reduction? How could/should section 111(d) interact with efforts in states such as California to strictly regulate once-through-cooling?*

In addition, nuclear plants currently under construction present a challenge to state emission reduction goal calculation. EPA proposes that emission reductions associated with units under construction should be factored into state goals, but recognizes that "[i]f one or more of the units were not completed as projected, that could have a significant impact on the state's ability to meet the goal" (p. 215). *Should state goals incorporate nuclear plants under construction?*

The proposal envisions an important role for PUCs and RTOs. Integrated resource planning (IRP) is a process that utilities use, often under the oversight of a state public utilities commission (PUC), to take into account a full range of alternatives to meet electricity demand (e.g., new fossil fuel generation capacity, renewable energy, power purchases, cogeneration, end-use energy efficiency, etc.), taking into consideration cost, reliability, and other factors. EPA's proposed rule declares that states committed to IRP could implement their CO_2 reduction program—in particular, measures from building blocks 2, 3, and 4—through an IRP framework (p. 22). PUCs have historically played an important, yet undervalued role in clean energy innovation. It will be interesting to see what role PUCs take on in the §111(d) context. *What role could/should PUCs play in §111(d) compliance?*

Additionally, EPA is soliciting comment on whether it should develop multi-state goals that track regional transmission control areas (pp. 368-69). Regional transmission organizations (RTOs) and independent system operators (ISOs) coordinate electricity reliability within large states or across multistate regions, and monitor the electricity grid. A multistate goal that tracks the footprint of RTO control areas might make sense because electrons on the grid are fungible. Regardless, EPA encourages states with borders that fall within one or more ISO or RTO footprints to consult with the relevant ISOs/RTOs" in developing their state plan (p. 371). In particular, RTOs could help states monitor the effects of their plan policies on grid reliability (p. 501). The fact that electricity grids often physically span multiple states could encourage states to collaborate across state lines on §111(d) plans. *What role could/should RTOs play in §111(d) compliance? Should EPA issue multi-state goals based on RTO control areas? How might states that span more than one RTO area be affected?*

Enforceability challenges present a significant barrier to EPA's proposed rule. EPA

reiterates the Clean Air Act requirement that state plans must include "enforceable measures that reduce EGU CO_2 emissions" (p. 117). EPA summarizes the three main enforceability issues as follows: 1) whether a state plan can rely on renewable energy and end-use energy efficiency (RE/EE) measures that help achieve an emission performance level, or whether the emission level must come entirely from "inside the fenceline" changes; 2) if a state plan can include RE/EE measures, whether EGUs must be held accountable for implementing those measures, or whether other entities can be responsible; and 3) whether inclusion in a state plan renders RE/EE and other measures federally enforceable (pp. 379-80). I expand on each of these issues in turn below.

Can a state plan rely on outside the fenceline RE/EE measures to achieve emission reductions? Under EPA's so-called "portfolio approach," a state plan could include measures that reduce EGU emission intensity as well as RE/EE measures (p. 382). Significantly, "[u]nder this approach, it would be all of the measures combined that would be designed to achieve the required emission performance level for affected EGUs as expressed in the state goal" (p. 382). EPA invokes *Chevron* to interpret the statutory phrases "standards of performance for any existing source" and "the implementation and enforcement of such standards of performance" to allow the portfolio approach (p. 390). Specifically, "EPA is proposing to interpret section 111 as allowing state 111(d) plans to include measures that are neither standards of performance nor measures that implement or enforce those standards, provided that the measures reduce CO_2 emissions from affected sources" (p. 390).

EPA hangs a portion of its interpretation on the word "for," as in, standards of performance "*for*" affected sources, to encompass RE/EE and other programs that reduce fossil-fuel generation. According to EPA, "depending on the specific provisions in the state plan, renewable energy and demand-side energy efficiency requirements would be "for" fossil fuel-fired EGUs where such standards result in reduced CO_2 emissions from fossil fuel-fired EGUs, even if the standards do not apply directly to fossil fuel-fired EGUs" (p. 391). EPA further suggests that RE/EE and other programs may constitute the type of implementing measures appropriate for inclusion in state plans, and regardless, nothing in the Clean Air Act prohibits states from including other stuff in state plans (p. 392). *Will this withstand judicial scrutiny?* EPA seeks comment on whether, even if not, there is any way to allow states to rely on the portfolio approach for at least a limited period of time (p. 394).

Can the state plan hold non-EGU entities responsible for implementing RE/EE measures? The proposed rule would allow state plans to include programs for which the state itself or a separate non-EGU entity is responsible (p. 18). In other words, "EPA is

proposing that state be authorized to submit state plans that do not impose legal responsibility on the affected EGUs for the entirety of the emission performance level, but instead, by adopting what this preamble refers to as a 'portfolio approach,' impose requirements on other affected entities (e.g., renewable energy and demand-side energy efficiency measures) that would reduce CO_2 emissions from the affected EGUs" (p. 123). The proposed rule would allow states to decide whether to assign obligations just to EGUs or to impose requirements on other entities (p. 123). According to EPA, "The primary limitation on the state's flexibility is that the emission standards applied to all of the state's affected EGUs—and, in the case of states that adopt the portfolio approach, the requirements imposed on other affected entities—taken as a whole, must be demonstrated to achieve the required emission performance level." (pp. 326-27).

EPA proposes "that affected entities in an approvable state plan may include: an owner or operator of an affected EGU, other affected entities with responsibilities assigned by a state (e.g., an entity that is regulated by the state, such as an electric distribution utility, or a private or public third-party entity), and a state agency, authority or entity" (pp. 471-72). EPA acknowledges that "a plan that assigns responsibility to affected entities other than affected EGUs may be more challenging to implement and enforce than a plan with requirements assigned only to affected EGUs. Furthermore, it may be more challenging for a state to demonstrate that it has sufficient legal authority to subject such affected entities other than affected EGUs to the federally enforceable requirements specified in its state plan" (p. 472).

There are obvious concerns with holding non-EGU-entities accountable. For instance, if the state itself is the entity responsible for compliance, how can EPA ensure compliance? EPA is seeking comments on whether a state plan that holds other entities responsible for emission reductions "must include additional measures that would apply if any of the other portfolio of measures in the plan are not fully implemented, or if they are, but the plan fails to achieve the required level of emission performance" (pp. 427-28). EPA suggests that such "corrective measures" could include, e.g., "an expansion of the scope or an increase in stringency of the current measures in the plan, a second set of measures that avoid EGU CO_2 emissions, or emissions limits that apply to affected EGUs" (p. 428, n.282). *Would corrective measures solve this enforceability challenge?*

Does inclusion in a state plan render measures federally enforceable? Under §111(d), state plans must demonstrate the state's legal authority to implement and enforce each plan component "as part of a federally enforceable emission standard." A state can meet this requirement by including its statutes, regulations, PUC orders, or other legal instruments in its state plan (p. 455). Various stakeholders are concerned, however, that

including RE/EE programs in state plans "would render those measures federally enforceable and thereby extend federal presence into areas that, to date, largely have been the exclusive preserve of the state and, in particular, state public utility commissions and the electric utility companies they regulate" (p. 386).

EPA proposes that "all measures relied on to achieve the emission performance level be included in the state plan, and that inclusion in the state plan renders those measures federally enforceable" (p. 380). EPA suggests that states worried about federal enforceability could take a "state commitment approach," under which "the state requirements for entities other than affected EGUs would not be components of the state plan and therefore would not be federally enforceable. Instead, the state plan would include an enforceable commitment by the state itself to implement state-enforceable (but not federally enforceable) measures that would achieve a specified portion of the required emission performance level on behalf of affected EGUs" (p. 387).

Alternatively, under a slight variation of the state commitment approach, "the state plan would impose the full responsibility for achieving the emission performance level on the affected EGUs, but the state would credit the EGUs with the amount of emission reductions expected to be achieved from, for example, RE or demand-side EE measures. The state would then assume responsibility for that credited amount of emission reductions in the same manner as the state commitment plan approach" (p. 388). EPA seeks comments on all of these questions. *Will EPA's proposed solutions withstand legal challenge? Would they satisfy stakeholders' concerns about rendering RE/EE programs federally enforceable?*

Stay tuned for more insights, observations, and legal questions related to EPA's proposed section 111(d) rule.