In August, EPA released proposed rules to reduce fugitive methane and VOC emissions from oil and gas operations. While this is a significant action in the fight against climate change, and much needed in light of the shale-driven national drilling renaissance, there is a gaping hole in the methane rules that has environmentalists worried — the rules do not apply to existing sources. With only vague pronouncements to assuage the environmentalists' concern, we are left to speculate as to EPA's motives and next steps.

Catching the fugitive

Methane, of course, is a major greenhouse gas, with more than 20 times the heat-trapping capability of carbon dioxide. Nearly a third of our methane emissions come from the oil and gas industry. The rules focus on 'fugitive' methane emissions, the gas that escapes with the flow-back of produced water during the completion stage of a hydraulically fractured oil or gas well, and from leaks throughout the natural gas transmission, storage and distribution infrastructure. A fast-moving scientific debate has developed over the past five years trying to quantify the amount of methane emissions escaping from our natural gas system, with some concluding that natural gas loses its greenhouse gas advantage over coal if fugitive emissions are included. In January, the Obama Administration announced a goal to reduce methane emissions from the oil and gas industry 40-45% below 2012 levels by 2025.

EPA took its first step to reduce methane emissions from the natural gas industry with a 2012 rule that requires a developer to either flare or capture fugitive emissions during the completion stage of a new or modified hydraulically fractured natural gas well; capture only is permitted beginning in 2015. The technology for this 'green completion' is readily available.

The current rules expand the green completion requirement to oil wells, not just gas wells. This expansion was necessary because there is frequently significant natural gas associated with an oil reservoir, and it escapes during the completion stage of a hydraulically fractured well in the same manner. Like the 2012 rule, the present rules apply only to new or modified hydraulically fractured oil wells.

As the scientific discussion fleshed out, a significant portion of fugitive methane emissions comes, not from the wellhead, but from leaks at pipelines, storage facilities and processing plants. The current rules reach these downstream fugitive emissions by requiring optical gas imaging cameras to detect leaks, establishing leak inspection and reporting procedures, and specifying technological standards for various pieces of equipment throughout the supply chain where leaks are most likely. These are again performance standards applicable only to new or modified sources.

An intentional hole, or just a first step?

Environmental groups have criticized the proposed rules for failing to cover methane emissions from *existing* sources. There is legitimate concern that the rules would leave considerable equipment, like compressors, valves, storage tanks, distribution pipelines and abandoned wells, beyond the scope of the new rules. According to an analysis prepared for the Environmental Defense Fund by ICF International, sources in existence prior to the 2012 rule are projected to be responsible for up to 90 percent of emissions in 2018. Much of this older infrastructure exists in states like North Dakota, where widespread use of methane capture technology has not kept up with the rush to capitalize on the shale oil boom.

Is the decision to not cover existing oil and gas facilities a compromise we will come to regret, as the 1970s decision to exempt existing power plants from the CAA's permitting requirements? Or is it merely a first step akin to the process EPA has recently followed in regulating carbon emissions from power plants, where EPA first issued performance standards only for new power plants and later rolled out rules for existing plants under the Clean Power Plan?

We just need the gas too badly?

One possible motivation for not covering existing oil and gas facilities may be a justifiably heightened sensitivity to industry's cost concerns. President Obama and EPA are unapologetic in relying on a robust supply of affordable natural gas to displace a significant amount of coal-fired generation in coming years. Replacing coal with natural gas is one of the keys to achieving the greenhouse gas emission reductions called for by the Clean Power Plan, which in turn is at the heart of Obama's emission reduction pledge to the international community in advance of the Paris climate negotiations later this year. Now is not the time to impose overly aggressive costs on the natural gas industry; we just need the gas too badly.

Of course, the climate benefits of replacing coal with natural gas under the Clean Power Plan can be lost if fugitive methane emissions are not significantly controlled. EPA may be calculating that, by the time states must begin complying with the Clean Power Plan, there will be substantially new natural gas infrastructure that is covered by the proposed rules. Policymakers made a similar assumption at the dawn of the Clean Air Act.

A lesson we haven't learned?

In 1977, the Clean Air Act was amended to establish a permitting program to insure that new power plants meet the air quality standards established in 1970. However, existing power plants were exempted from this more stringent regulation. Some viewed this as a pragmatic compromise since the existing fleet of power plants would have to get their permits whenever they had to make a "major modification," which they would have to do eventually, right? The now-well-known unintended consequence of "grandfathering" in these existing power plants is that industry has done all it can to extend the lives of these belching behemoths in order to avoid the more stringent new source standards. It is no coincidence that the average age of a coal-fired power plant in the U.S. is about 45 years, well beyond the anticipated 30-year lifespan. The older coal-fired power plants are obviously among the dirtiest.

There are some reasons to think that grandfathering in existing oil and gas facilities will not have consequences as severe as grandfathering in existing power plants. First, oil and gas wells do not have anywhere near the lifespan capacity of power plants, such that new wells that will be subject to the rules will constantly be coming on line. Moreover, EPA's proposed rules consider re-fractured wells to be "modified," triggering applicability of the new source performance standards. Finally, there exists a financial incentive to capture fugitive emissions quite apart from the proposed rules, as the owner can bring such captured gas to market. These considerations, this line of thinking goes, counterbalance fears that we will be stuck with existing unregulated facilities for decades.

EPA took the easy way out, for good reason?

Another possibility is that EPA is just making a pragmatic decision that covering new sources only is the legally safest course for now, and that avoiding a vicious and viable legal challenge over the methane rules is desirable in light of the epic legal battle awaiting the Clean Power Plan over the next few years. Like the Ozone Rule EPA recently released, which opted to set an ambient air quality standard at the least stringent level of the range recommended by the agency's scientific advisors, EPA could just be playing it safe here recognizing that the Clean Power Plan is the bigger fish to fry.

There is no question that, after the Supreme Court's *Massachusetts v. EPA* decision eight years ago and EPA's subsequent "endangerment finding," EPA has the authority to regulate methane. But regulating methane is difficult because, like carbon dioxide, it does not squarely fit under any particular regulatory scheme set up by the Clean Air Act. Methane is not one of the six criteria pollutants identified under sections 108 and 109 of the Clean Air Act; nor is methane one of the 187 identified hazardous air pollutants under section 112. Even if methane is legally a criteria pollutant as a result of *Massachusetts v. EPA*, setting a

parts-per-million standard for methane, as is done for other criteria pollutants, just doesn't work when (again, like carbon dioxide) we are worried about the methane concentration level in our thoroughly mixed global atmosphere.

Some would say that EPA got creative in its attempt with the Clean Power Plan to regulate carbon dioxide under section 111(d) of the Clean Air Act, and most recognize that there are stern legal challenges awaiting that have more than a negligible chance of success. Going after methane from existing sources would require similar creativity and face comparable legal challenges. But going after new sources under section 111(b) is less fraught with legal uncertainty. Sure there will be lawsuits over the methane rules, there always are with major new air regulations. But the arguments EPA will face will be typical challenges to rule-making, that EPA got in wrong not that it lacked authority. EPA can handle those fights.

Relax, it's just a first step?

EPA has been somewhat coy in response to the legitimate concerns over excluding existing sources. EPA has acknowledged that the currently proposed rules will not by themselves achieve its declared 40-45% emission reduction goal. However, in that 'unofficial' way that folks in Washington sometimes like to get information out, high-level EPA officials have hinted that there could be other regulations from other unspecified agencies that will help cut into methane emissions from the oil and gas industry. Moreover, Administrator McCarthy has left the door open to regulating existing sources in the future.

One other agency that could take a significant swipe at methane emissions from the oil and gas industry is the Interior Department, which manages the federal lands on which a significant portion of all oil and gas drilling occurs. The Interior Department, in its statutorily-prescribed capacity to protect natural resources on our public lands, can enact capture and flaring rules without the constraint of the Clean Air Act. It is reportedly working on a rule, to be proposed shortly, that would require oil and gas developers to pay royalties for natural gas that escapes or is flared. Such a rule would create a significant incentive for developers to capture fugitive emissions and bring otherwise lost gas to market.

Section 111(d) re-dux?

Of course, trying to justify EPA's decision to exclude existing oil and gas facilities assumes that EPA made such a decision in the first place. The simplest explanation may be that there was no such decision, and that EPA is just proceeding step-by-step, with existing

facilities up next. This is precisely what EPA did with carbon emissions from power plants. First, it released performance standards for new or modified plants in 2012, proposing a substitute rule in June, 2014. That rule was finalized on August 3 of this year. On the same day, EPA formally proposed the final Clean Power Plan covering existing sources. Some hope that, as with the carbon regulations, covering new oil and gas sources is just a precursor to regulating existing sources.

There are a couple of reasons why this may not be EPA's plan. First, it is hard to understand why, if EPA plans to issue rules covering existing facilities next, it doesn't just say so. During the development of the carbon rules for new power plants, EPA did not hide the fact that regulations for existing plants were coming. Second, this explanation suffers from a timing problem. Major air quality regulations take time, more time than may be left on this Administration's clock. If EPA intends to wait until these presently proposed rules are finalized before rolling out proposed rules for existing oil and gas facilities, it will run up against the end of Obama's second term.

On the other hand, this 'first step' explanation seems more plausible in light of the Clean Air Act requirements for regulating existing sources under section 111(d). One of the things we all learned or were reminded of with the roll-out of the carbon regulations for power plants is that, in order to invoke section 111(d) and require states to submit emission reduction plans for existing sources, there must be performance standards to which an existing source would be subject if it were a new source. In other words, by the specific statutory language of section 111(d), the new source standards *must* come first. Under this view, by rolling out these rules for methane emissions from new and modified sources, EPA has just laid the necessary legal groundwork for utilizing section 111(d) to later regulate methane emissions from existing oil and gas facilities.

A decision for a later day

If the proposed rules are all there are with respect to methane emissions from oil and gas operations, then industry wins. If the proposed rules are laying the groundwork for regulation of emissions from existing oil and gas facilities, then environmentalists get all they could really want.

The truth of EPA's intentions may lie somewhere in between. By creating standards for new and modified sources in the oil and gas industry, EPA has in fact taken only one step in curbing methane emissions, and it is a smaller step than many had hoped. But in taking that step, EPA has given itself the flexibility to use section 111(d) to regulate emissions from existing facilities at some point in the future.