The Clean Air Act has two kinds of standards. It sounds like having two kinds of standards should improve air quality more than a single standard. But in reality, one type of standard can result in canceling out the benefits of the other type. If you understand the statute, this is actually pretty obvious once you stop to think about. I have to admit, however, that I *hadn't* stopped to think about it until today, even though I've taught this stuff dozens of time.

What are the two types of standards? First, the Act tells EPA to issue national air quality standards for major air pollutants and requires states (or as a back-up, the Feds) to create plans to meet those standards by certain deadlines. Second, it sets national pollution controls standards for new cars, factories, and power plants. The air quality standards are based on public health, while the national requirements for new sources are based on the best available technology for controlling emissions.

There are some significant pollutants that aren't covered by air quality standards, most notably toxic chemicals and carbon dioxide. My argument doesn't apply to them.

What's the problem? The problem is that, if the air quality requirements are working, they cancel out the air pollution benefits of the technology requirements.

Here's why: Suppose a state has to cut emissions by 10%. A new factory is being built. If it weren't for the new source standards, it would add 2% to the state's pollution. So now the state would have to cut 12% of its existing pollution. Instead, the new source standards cut the emissions from the plant in half, so it now only adds 1%. It sounds like that's good for air quality, right? Well, not really. Now the state only needs to cut existing emissions by 11%, not 12%. In other words, the decreased pollution from the new source allows the state to ease up on controlling existing sources by exactly the same amount. The net effect or the new source standards on air quality is zero. On the other hand, the state might have been able to use lower costs reductions instead of the technology-based standards, so that's a disadvantage.

So why even have the technology based standards for new plants? I can think of two types of justifications. First, you might have the national air quality standards for reasons unrelated to air quality. The reason for having national standards for new cars is just that it would be very inefficient for every state to set its own standards, which would drive carmakers crazy. The federal new source

standards for factories seems to be intended to keep them from leaving industrial eastern cities for elsewhere. Congress was also afraid that other place might cut their standards to get the business. Little did they know that the manufacturing would simply move to China.

The other possibility is simply that you might not have much confidence in the air quality standards and the accompanying state implementation plans as drivers of emission reduction. If the air quality standards are soft and flexible, states may not feel any need to compensate for pollution reductions in one sector (new sources) by easing up on emission reductions in another (existing sources). In the extreme case where the air quality standards and state plans are completely ineffective, technology-based standards are really the only way to get pollution reductions. That may be true of cars and trucks, for instance. States have little appetite for cutting use of existing cars, so pollutions standards for new cars may be the only way car emissions ever go down.

The drafters of the Clean Air Act may well have lacked confidence in the air quality standards and state plans as a mechanism, so they may have been hedging their bets.

You might also use technology standards in two specific situations where air quality standards won't do the job. First, technology standards could be useful when current air quality exceeds national standards. If you want to preserve pristine air, technology standards will help limit the impact of new plants in those areas. Second, you could use technology standards as a punishment for states whose plans fail to work, making it hard for them to attract new industry unless they get serious about the national standards. Later amendments to the Clean Air Act do adopt these strategies. The amendments reflect gaps and deficiencies in the "air standards plus state plans" mechanism. That doesn't detract from the basic point that if the air quality standards were really rigorous and binding, technology standards would either be ineffective or pointless.

In short, if the national air quality standards and the state implementation plans actually do what they were supposed — reduce air pollution to a harmless level — the technology based standards for new sources would contribute nothing. Technology based standards are useful only to the extent air quality standards don't work. Otherwise, they merely add to the expense of attaining the standards.