Excerpts from revised CH6 of Ashford and Caldart, "Environmental Law, Policy, and Economics"

> In 2009, EPA made a formal finding (discussed in Section E the section XY on Greenhouse Gases) that greenhouse gas emissions from motor vehicles pose an endangerment to public health and welfare. EPA then proceeded to set tailpipe GHG emission standards for cars and light duty trucks under the act's mobile source provisions.

> The endangerment finding also triggered a requirement that GHG emissions from newly constructed or modified "major emitting facilities" be subject to BACT regulation under the PSD requirements. See Section 165(a)(4) of the CAA, 42 U.S.C. § 7475(a)(4). Depending on the type of facility, a "major emitting source" is one that emits 100 tons per year (tpy) (for certain listed source categories) or 250 tpy of any air pollutant. See Section 169(1). According to agency estimates, applying these thresholds to GHG emissions would have subjected "more than 81,000" facilities to PSD requirements, "an increase of almost 300-fold" over then-current numbers [75 *Fed. Reg.* 31,514, 31,554 (June 3, 2010)]. Moreover, EPA concluded that millions of smaller GHG-emitting facilities would be subject to CAA regulation under the Title V operating permit program (discussed later in this chapter), which imposes a 100 tpy threshold. See Section 502(a), 42 U.S.C. §7661a(a), and Section 501(2), 42 U.S.C. § 7661(2) (defining "major source").

In the past, the D.C. Circuit has indicated its understanding that Section 111 specifically aims to stimulate the development of pollution control technology. In *Sierra Club v. Costle*, 657 F.2d 298 (D.C. Cir. 1981), environmental organizations and regulated parties challenged the EPA's 1979 NSPS for SO_2. The industry petitioners argued that the standard was impermissible because it required emission reductions beyond what was already achievable. The Court rejected this challenge, based on its deference to EPA's view that the standard adopted by the agency would optimally motivate development of emissions control technology. In the preamble to the rule, EPA had stated that "the Administrator sought a percentage reduction requirement that would provide an opportunity for dry SO2 technology to be developed … yet would be sufficiently stringent to assure that the technology was developed to its fullest potential." 44 Fed. Reg.Reg.Reg.

The court concluded that the EPA appropriately considered how the rule might affect the development of technology. It held that the balancing required under Section 111(a) of the CAA "embraces consideration of technological innovation as part of that balance" even though the phrase is not specifically included. 657 F.2d at 346. That provision requires that EPA "tak[e] into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements" in setting an emission performance standard. 42 U.S.C. § 7411(a)(1). The "cost of achieving such reduction" would inevitably depend upon the technology available at the time of implementation, which encompasses the likely advances in technology between the issuance of the rule and when it goes into effect. Importantly, the court elaborated that the EPA should view technological development from a long-term perspective, counseling that as "long as EPA considers innovative technologies in terms of their *prospective* economic, energy, non-air health and environmental impacts the agency is within the scope of its authorized analysis." Id. (emphasis added). Ultimately, the *Costle* court held that an NSPS may be set at a level that would require the deployment of yet-to-be-implemented technology applications:

> Recognizing that the Clean Air Act is a technology-forcing statute, we believe EPA does have authority to hold the industry to a standard of improved design and

> operational advances, so long as there is substantial evidence that such improvements are feasible and will produce the improved performance necessary to meet the standard. …
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> … [W]e uphold EPA's judgment that the standard can be set at a level that is higher than has been actually demonstrated over the long term by currently operating lime scrubbers at plants burning high sulfur coal.

657 F.2d 298, 347 (D.C. Cir. 1981). *See also Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 375, 391 (D.C. Cir. 1973), cert. denied, 423 U.S. 1025 (1975) ("Section 111) looks toward what may fairly be projected for the regulated future, rather than the state of the art at present, since it is addressed to standards for new plants…. The essential question was … whether the technology would be available for installation in new plants.").