sign services costs of up to $0.16/ft^2 ($1.72/m^2).

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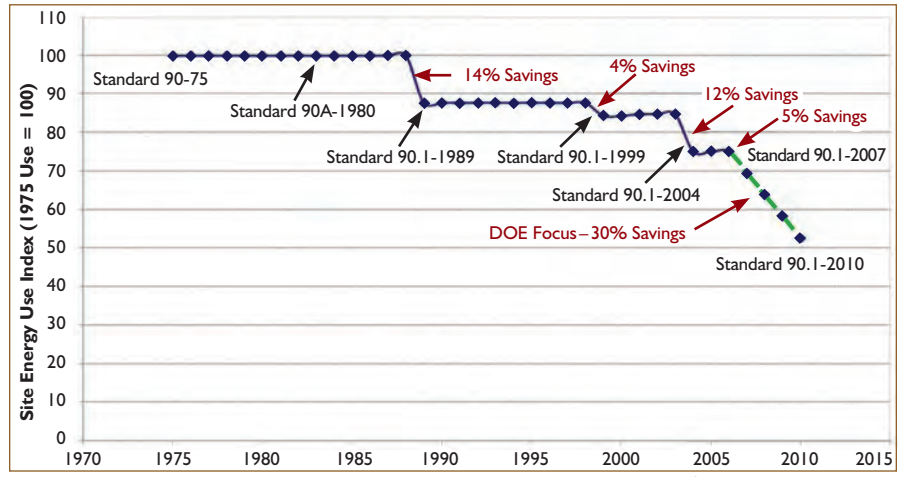

Credit: Mark Halverson, PNNL

Improvements in stringency from Standard 90-75 to 90.1-2010.

Late 70s, Early 80s

By David R. Conover,
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As discussed in the previous section, ASHRAE responded to the energy challenges of the early 70s (such as the oil embargo of 1973) by accepting the request from the states to process a suggested standard that NBS had published in early 1974. The NBS standard was in response to an earlier request from the states to publish a consensus standard to address the design and construction of buildings with respect to energy efficiency (conservation in 1970s terminology). The publication of ANSI/ASHRAE/IES Standard 90 in 1975, covering residential and commercial buildings, was the outcome of that request.

The publication of that standard coincided with the Energy Policy and Conservation Act (PL94-163) in late 1975 requiring states to adopt an energy standard for new buildings and offering financial incentives or withholding federal support if the initiatives in the legislation were not adopted and implemented. This legislation created an interest in and emphasis on energy in buildings and helped spur creation of state energy offices, the addition of energy as a topic covered by the building regulatory process, and an infrastructure focused on the development, adoption, implementation and enforcement of energy standards for new buildings. Standard 90-75 was completed and available at the right time. Federal legislation, Standard 90-75, the market, and a new emphasis in building energy use created a "land rush" to adopt and implement energy provisions for building design and construction in mandatory as well as market-driven vehicles.

The primary means of implementing those provisions was their adoption via state and local laws, rules and regulations. States with authority to adopt building construction regulations began to adopt Standard 90-75 or model codes, such as the Model Code for Energy Conservation (MCEC), that were based on the technical provisions of the standard but in enforceable code language (as opposed to design guidance as provided in the standard). Where states did not have such authority, via legislative action, the states adopted Standard 90-75 or a comparable model code directly in law or gave authority to state agencies to develop and adopt building energy codes. At a minimum, state agencies began to adopt Standard 90-75 or a comparable model code to regulate the design and construction of state-owned buildings. Also, local government undertook efforts to address the energy issue through local laws, rules and regulations.

Beginning in the early 70s, the U.S. had sparse adoption of energy standards for new buildings, with the exception of some federal programs such as the HUD Minimum Property Standards. By mid-decade some states adopted energy provisions, and by the early 80s more than half the states had adopted energy provisions for buildings. The majority of those provisions could be traced to Standard 90-75. The updating of Standard 90-75 was undertaken by splitting the standard into two parts: 90A contained the prescriptive path to compliance, and 90B contained the alternative performance path. A new 90C was added in 1977 to provide a basis for considering building energy use on a source energy basis.

In response to a request from HUD in 1982 for a more rigorous standard for residential construction to replace the energy provisions of the HUD Minimum Property Standards, ASHRAE undertook efforts to create separate residential and commercial standards. It formed a committee to update the commercial provisions of Standard 90A-80, Standard 90B-75

1977 — Late 1970s to Early 1980s — 1980

1977	Late 1970s to Early 1980s	1980
Arthur D. Little does a major assessment of the impacts of Standard 90-75.	Standard 90 requirements are adopted by states into their own energy codes.	Standard 90A-1980 published. The update did not substantially change energy conservation levels, but did include a similar lighting power budget calculation procedure.