

COAL FACTS

THE BURDENS OF NEW SOURCE REVIEW



THE VALUE OF OUR EXISTING COAL FLEET

NSR REFORM OPPORTUNITIES

44,000-110,000

Potential jobs created retrofitting environmental technologies to enhance efficiency at existing coal plants

> \$5 Billion

Capital equipment expenses associated with NSR compliance (1999-2005)

33%

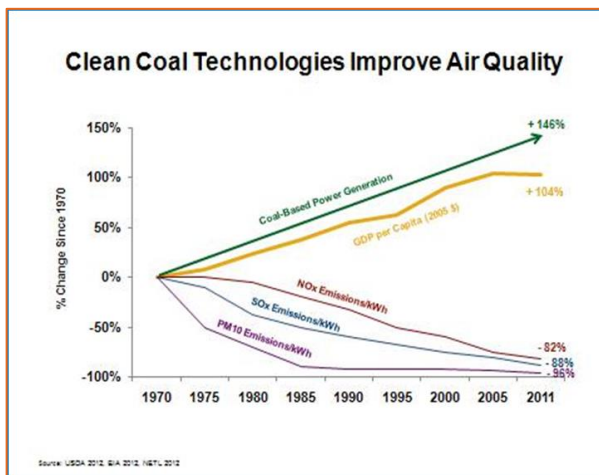
Average efficiency of U.S. coal fleet in 2012

45%

Average efficiency of coal plants in Japan

POWER PLANT EFFICIENCY = ECONOMIC GROWTH

Improving the efficiency of existing power plants plays an important role in meeting economic and environmental objectives. Improving thermal efficiency can provide two important benefits that lower operating costs: the reduction of fuel consumption and the reduction of emissions.



Clean Coal Technologies Improve Air Quality

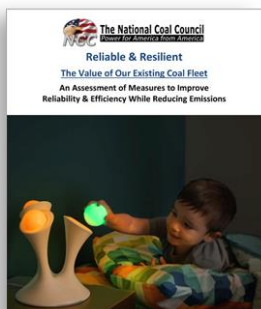
NSR DISINCENTIVIZES EFFICIENCY & INNOVATION

Under EPA's New Source Review (NSR) program, major new sources and major modifications of existing sources must obtain preconstruction permits that include a requirement to apply state-of-the-art air pollution control technology. Much of controversy regarding NSR lies in determining whether the "modification" is non-routine maintenance, repair and replacement and whether the change causes an increase in emissions.

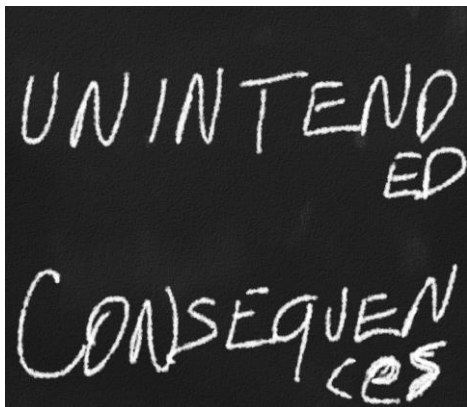
Since the late 1990s, NSR rules have been so controversial that the very uncertainty created by them works as a powerful disincentive for utilities to undertake projects that might trigger NSR or to conduct research necessary to develop additional efficiency innovations.

"As applied to existing power plants and refineries, EPA concludes that the NSR program has impeded or resulted in the cancellation of projects which would maintain and improve reliability, efficiency and safety of existing energy capacity. Such discouragement results in lost capacity, as well as lost opportunities to improve energy efficiency and reduce air pollution."

Environmental Protection Agency



**NCC Report for
Energy Secretary Moniz
May 2014**



New Source Review's Unintended Consequences

Increased use of an efficient unit will lead to less use of another less efficient unit. Hence, current rules could result in higher national emissions and continued degradation of efficiency within the existing fleet.

Of course, a power plant owner could accept the additional requirements that come with NSR and make the efficiency improvement, but as stated by EPA:

"The costs associated with NSR, particularly the costs to retrofit pollution controls, can render these projects uneconomical. Thus the EPA finds that NSR discourages some types of energy efficiency improvements when the benefit to the company of performing such improvements is outweighed by the costs to retrofit pollution controls or to take measures necessary to avoid a significant net emissions increase."

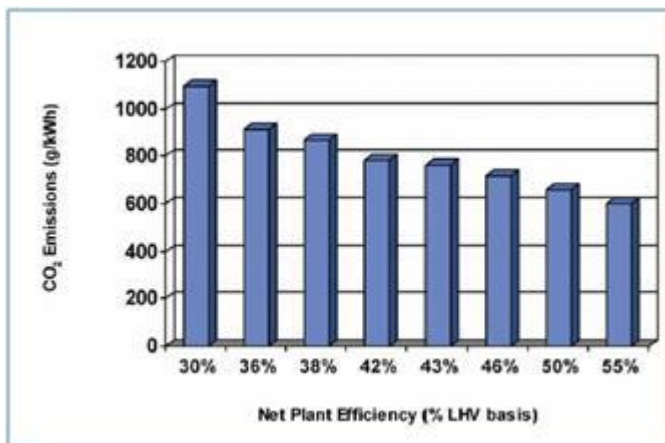
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NSR DISINCENTIVIZES EFFICIENCY & INNOVATION

Achieving the most significant improvements in efficiency may be deterred by concern that the required equipment modifications and improvements will be characterized a "major modification" under NSR regulations, and result in additional environmental requirements that would be costly and reduce the efficiency gains.

Intuitively, one might think that projects that improve efficiency would never trigger NSR even if they are considered "physical changes," because they decrease emissions per unit of power produced. Unfortunately, that is not necessarily the case under NSR, because of the way NSR rules define "emissions increase."



As the rules currently stand and are enforced by EPA, such projects would trigger NSR if they result in an increase in emissions of any NSR-regulated pollutant, including SO₂, NO_x and particulate matter (PM) as well as greenhouse gases.

If the unit is used more after the project than before – which is probable as the post-project unit is likely to be more efficient and thus more attractive to run – the project could be said to result in an NSR emissions increase, triggering an NSR violation.

Coal Moisture Impact on Efficiency

