

INCORPORATING MORTALITY REDUCTIONS FROM USE OF LOW-COST POWER INTO EVALUATIONS OF EXTERNALITY PROPOSALS

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ABSTRACT:

Incorporation of externalities in electric utility planning is done with the objective of reducing emissions whose costs are otherwise not reflected in market prices. By doing so, we seek to improve health and decrease the risk of premature death. However, in creating a shift to a lower-emitting set of generation resources, we are likely to encounter higher direct costs for this generation. These cost increases for power can reduce personal income and possibly increase unemployment, two outcomes that themselves are associated with poorer health and greater mortality. This raises the possibility that some environmental actions proposed to save lives may cost more lives than they save, and exact their greatest toll among lower-income groups.

It is now widely recognized that wealthier individuals are more likely to live safer, healthier, and longer lives. With more income, individuals tend to spend more on health care for themselves and their children, eat a more nutritious diet, and take other actions that decrease the likelihood of premature death by illness or accident. Consistent with this fact, reductions in disposable income tend to increase health and safety risks and premature deaths. Similarly, higher unemployment has been shown to have an adverse effect on safety, health, and longevity.

These dynamics create a tradeoff that should be evaluated when considering proposals that would curtail the use of low-cost power sources. By incorporating externalities, we expect to reduce emissions and see fewer related deaths. However, the cost of making these reductions reduces disposable income, which can increase other health and safety risks and lead to a higher mortality rate. A key issue is whether there are net benefits or net losses in terms of health and safety from these opposing forces. Simply put, when the costs of achieving these emission reductions are considered, do we lose more lives than we save?

These tradeoffs are disquieting. Most of us like our policy choices clear and simple – meaning one choice is obviously better than the alternative. But when the costs of proposed policies exact their own toll in human lives, we are forced to weigh the health and safety improvements of regulation relative to the health and safety losses due to the regulatory costs.

This presentation develops a framework for analyzing the induced deaths that could arise from the higher costs of forgoing low-cost power generation resources. These potential losses are the health, safety, and longevity gains that low-cost power now provides. The methodology analyzed several energy and economic modeling studies that calculated the costs of significant reductions

in coal-fueled power. These costs were then allocated to different income groups, and then used to estimate the expected number of deaths that would be induced by this loss of income.

We all care about saving lives, so it doesn't make sense to implement proposals that may end up taking more lives than they may save. Common sense and human justice dictate that we must examine such proposals carefully for both lives saved and lives lost.

Daniel E. Klein is President of Twenty-First Strategies, LLC. For over 25 years he has been a consultant on energy, economic, and environmental matters for energy companies, government agencies, and others. His work in recent years has focused on climate change issues, both on policy from the government side as well as strategies for the private sector. Mr. Klein earned a Bachelor's degree from the Massachusetts Institute of Technology and an MBA from the Stanford University Graduate School of Business.