

**Statement of  
Dr. Mark Cooper<sup>1</sup>  
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on the  
Economic Advisability of Increasing Loan Guarantees for the  
Construction of Nuclear Power Plants  
before the  
Domestic Policy Subcommittee  
Committee on Oversight and Government Reform, U.S. House of Representatives  
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My name is Dr. Mark Cooper. I am a senior fellow for economic analysis at the Institute for Energy and the Environment at Vermont Law School. In my 30 years of public policy analysis, I have testified approximately 350 times before federal and state legislatures and regulatory bodies on energy and communications issues, always on behalf of consumer, low income and public interest groups, as well as People’s Counsels and Attorneys General.

The Committee has requested that I address four questions about the economics of nuclear reactors and loan guarantees. I will do so on the basis of my two recent reports on these topics – *The Economics of Nuclear Reactors: Renaissance or Relapse*<sup>2</sup> and *All Risk, No Reward: The Economics of Subsidizing the 'Nuclear Renaissance' with Loan Guarantees and Construction Work in Progress*,<sup>3</sup> which are available at the Vermont Law School web site. I have presented the results of my analyses in briefings on Capitol Hill, in the Indiana legislature, and to the San Antonio City Council, as well as presentations to academic and trade conferences, and in testimony before the Florida Public Service Commission.<sup>4</sup>

As a lifelong consumer advocate, I believe that the fundamental economics of nuclear power should determine whether a new generation of reactors is constructed in the United States. In my testimony I show that nuclear reactors are uneconomic and unneeded, which is why Wall Street considers them a “bet the farm” decisions and will not put up the funds to finance them. It would be a mistake for policy makers in Washington, D. C. to force taxpayers to do what the capital markets will not, a mistake that could not only cost taxpayers hundreds of billions of dollars, but could impose trillions in excessive costs for electricity on ratepayers.

The current cost projections make power from nuclear reactors extremely expensive and uneconomic and those costs are likely to escalate, not decline, if these reactors are ever built. The problems of cost escalation and cost overruns are endemic to the nuclear industry. Cost escalation and overruns afflicted the industry during the construction boom of the 1970s and

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<sup>2</sup> [http://www.vermontlaw.edu/Documents/Cooper%20Report%20on%20Nuclear%20Economics%20FINAL\[1\].pdf](http://www.vermontlaw.edu/Documents/Cooper%20Report%20on%20Nuclear%20Economics%20FINAL[1].pdf)

<sup>3</sup> [http://www.vermontlaw.edu/Documents/11\\_03\\_09\\_Cooper%20All%20Risk%20Full%20Report.pdf](http://www.vermontlaw.edu/Documents/11_03_09_Cooper%20All%20Risk%20Full%20Report.pdf)

<sup>4</sup> <http://www.eesi.org/can-addressing-climate-change-provide-economic-benefits-06-nov-2009>,  
[http://www.terry.uga.edu/exec\\_ed/bonbright/docs/Cooper\\_Keynote\\_Providing\\_Affordable\\_Energy.pdf](http://www.terry.uga.edu/exec_ed/bonbright/docs/Cooper_Keynote_Providing_Affordable_Energy.pdf),  
<http://www.floridapsc.com/library/filings/09/07157-09/07157-09.pdf>

1980s, with the final reactors built in the U.S. costing more than seven times as much as the initial cost projections offered for the first reactors in the building cycle. The escalation of projected costs since the early 2000s (the beginning of the so-called “nuclear renaissance”) has rivaled the historical experience of the industry. In less than a decade, projected costs have quadrupled.

Reactor design is complex, site-specific, and non-standardized. In extremely large, complex projects that are dependent on sequential and complementary activities, delays tend to cascade into interruptions. The endemic problems that affect nuclear reactors take on particular importance in an industry in which the supply train is stretched thin. These one of a kind, specialized products have few suppliers, so any increase in demand or disruption in supply sends prices skyrocketing.

Moreover, as my analysis shows, whether or not climate policy is enacted, efficiency and several widely available renewables (e.g. biomass, wind, geothermal) are substantially less costly than nuclear. Low-cost policies can push out peak demand by decades. The rational approach would be to pursue the lower cost alternatives first, while new, low-cost technologies are developed.

The marketplace, technology, policy regulatory and execution risk I have briefly described add up to severe financial risk. The financial risk is compounded by the fact that these projects are huge, compared to the asset base of most utilities. The nuclear industry is facing a combination of risks similar to those in the 1970s and 80s, which created a financial disaster for utilities and a rate shock for consumers. Given these risks and this experience, it is not surprising that Moody’s concluded that the decision to build a nuclear reactor is a “bet the farm” decision or that a Towers Perrin analyst suggested that the risk premium necessary to make nuclear construction projects attractive to utilities would be two to three times the normal risk premium. Thus, there is little wonder that capital markets are hesitant to finance the construction of new nuclear reactors. The rejection of nuclear reactors by financial markets is not a case of market failure; it is an example of market success, markets properly assessing risk and acting accordingly by refusing to underwrite unacceptable risks.

Loan guarantees are an effort to override the judgment of these capital markets by shifting these risks to taxpayers. They will also impose huge costs on ratepayers because nuclear subsidies would induce utilities to choose high capital-cost nuclear reactors that expand their rate base and forego much lower-cost alternatives, such as greater energy efficiency and renewable energy, imposing excessive costs on consumers that eventually could run into the trillions of dollars.

It is ironic that as the nation continues to suffer from the misallocation of risk by companies in the financial sector, some of the strongest supporters of free markets and critics of government action are urging a massive federal subsidy for nuclear power.