

What Nuclear Weapons Cost Us

Ploughshares Fund Working Paper | December 20, 2011

Ploughshares Fund projects that current plans for nuclear weapons and related programs will cost the American taxpayer approximately \$700 billion over the next decade.

In response to requests for further clarification of our estimate made earlier this year, Ploughshares Fund consulted with leading experts, reexamined the methodologies underlying our assumptions, and incorporated the best publicly available information into this Working Paper.¹ We provide a range of estimates and segregate the cost of nuclear weapons and related programs. Where indicated, we use the most current data or make inflation projections. We are also commissioning independent studies to provide more detail for the analytic community.

We identify \$645 billion in projected expenses through fiscal year (FY) 2021 for nuclear weapons and related programs. We include in our estimate all costs associated with nuclear weapons production, maintenance, clean up, defense and the prevention of nuclear proliferation.² Our calculations of these expenses range from approximately \$565 billion to \$686 billion, depending on the method selected. Within this range, we assess that \$645 billion is the most accurate estimate. This estimate could be plus or minus tens of billions of dollars, depending on the assumptions used.

In addition, there are major costs for programs that are planned but not yet included in the government's future budget projections. These account for tens of billions of dollars in additional costs. These include, but are not limited to: procurement and deployment of missile defense systems in Europe; new cruise missiles; new classified surveillance and intelligence programs; potential cost overruns in Department of Energy (DOE) and Department of Defense (DoD) programs; higher expenses for command and control and operations and support programs; and higher inflation rates.³ Accounting for these costs brings our estimate to approximately \$700 billion.

Department of Defense – Nuclear Forces: \$287 billion

We estimate that DoD will spend approximately \$287 billion to sustain, operate, and modernize the U.S. strategic nuclear arsenal over the next ten years. This is considerably higher than the often quoted estimate that DoD will spend \$125 billion on strategic nuclear forces, as described in the Section 1251 Report to Congress. However, DoD does not provide detailed information about what its budget projections include. Public summaries of the 1251 Report acknowledge that several major procurement programs are absent from or only partially included in their estimate as these programs do not yet have complete budget estimates. Our projection, using data from the Future Years Defense Program paired with inflation projections for FY17-FY21, includes the following⁴:

- A. \$138 billion for “Major Force Program 1” (Strategic Forces). This covers the organizations and weapons associated with U.S. nuclear-armed submarines and nuclear-capable strategic bombers. This program, and our estimate, also includes funds for non-nuclear programs, such as four conventional guided missile submarines and strategic bombers with only conventional missions.
- B. \$133 billion for DoD nuclear forces share of overhead and support. This includes funds for research, development, test and evaluation, central supply and maintenance, training, healthcare, administration, and some command, control and intelligence costs. Depending on methodology, upon which experts may reasonably differ, support costs range from \$52 billion to \$174 billion over ten years. We believe that \$133 billion is the most accurate figure.
- C. \$16 billion for anticipated new submarine and new bomber costs above inflation projections during FY17 – FY21. Based on Department of Navy and DoD budget projections for the new nuclear submarine and bomber, there are additional known expenses of \$11 billion for the sub and \$5 billion for the bomber that are not included in the above estimates.

Department of Energy – Weapons Activities: \$88 billion

DOE estimates that it will spend \$88 billion on nuclear weapons activities through FY21. We base our estimate on DOE’s budget plan, shown in its FY12 Stockpile Stewardship and Management Plan.⁵ This plan includes warhead life extension and dismantlement programs, construction of new weapons facilities, operation of existing facilities, and science, engineering and simulation campaigns. This is almost certainly a conservative estimate of the true cost of these programs.

Missile Defenses: \$106 billion

We estimate the government will spend \$106 billion on missile defense programs through FY21, including the budget for the Missile Defense Agency and related anti-missile programs in the military services and other agencies.[†] In addition to these costs, there are likely to be substantial expenses for the procurement and deployment of planned missile defense systems in Europe that have not yet been budgeted. Most policy-makers and analysts consider anti-missile weapons as part of the government’s strategic programs and link them intimately to nuclear policy.

Deferred Environmental and Health Costs: \$96 billion

We estimate that the U.S. will spend \$96 billion managing and cleaning up radioactive and toxic waste resulting from nuclear weapons production and testing activities, as well as compensating victims of such contamination.[†]

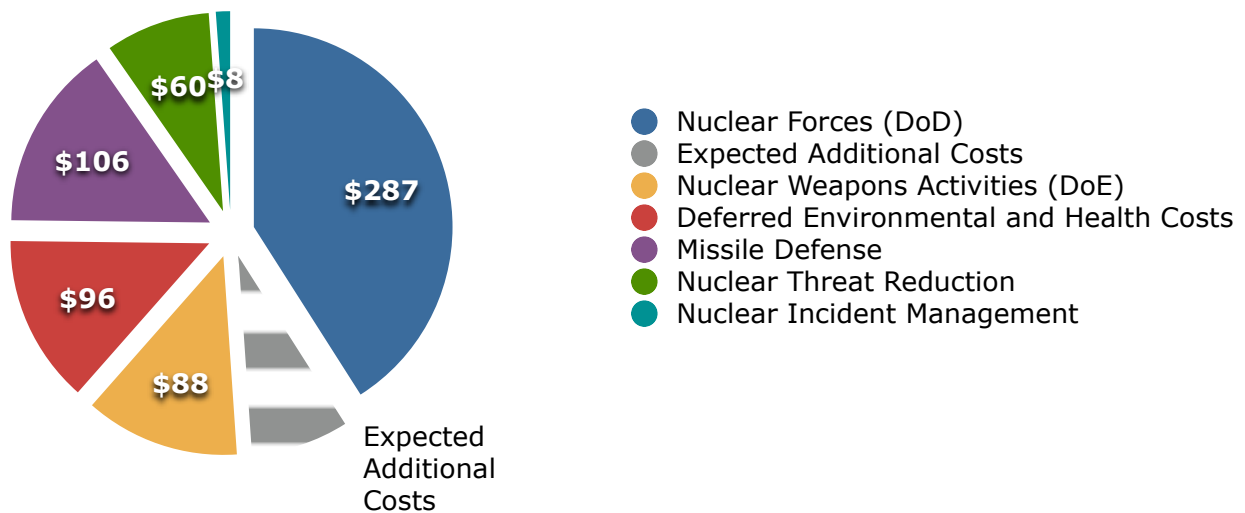
Nuclear Threat Reduction: \$60 billion

We estimate that the U.S. will spend \$60 billion to stop the spread of nuclear weapons.[†] It includes programs for nonproliferation, securing and disposing of fissile materials, construction of the Mixed Oxide Fuel facility, converting HEU-fueled reactors, and other programs.

Nuclear Incident Management: \$8 billion

We estimate that the U.S. will spend \$8 billion to prepare for emergency responses for a nuclear or radiological attack against the United States.[†] It does not include most of the relevant expenditures by the National Guard, federal agencies and local agencies that would be involved in nuclear or radiological incident response.

Projected Total Budget for Nuclear Weapons and Related Programs FY12-FY21 (in \$ billions)



[†] Estimate is based upon data from Schwartz and Choubey (2009) for FY 2008 appropriations, then projected through FY21 using inflation values from Office of Management and Budget historical figures and Congressional Budget Office extrapolations.

¹ Ploughshares Fund, “What We Spend on Nuclear Weapons,” September 27, 2011.

² Data and methodology based upon Schwartz & Choubey, “Nuclear Security Spending: Assessing Costs, Examining Priorities,” CEIP, 2009.

³ See, for example, Bruce Blair, “If Anything, \$700 Billion Underestimates U.S. Nuke Spending in the Next Decade,” *Time*, December 5, 2011.

⁴ Data for calculating DoD nuclear forces comes from Department of Defense, “National Defense Budget Estimates for FY2012,” March 2011.

⁵ National Nuclear Security Administration, “Stockpile Stewardship and Management Plan, FY2012,” April, 2011.