

1077-AE-1822 **Frank Wattenberg*** (Frank.Wattenberg@usma.edu), United States Military Academy,
Department of Mathematical Sciences, West Point, NY 10996. *Mathematical Modeling and Public
Policy Decisions Aimed at Mitigating Climate Change.*

Understanding the ramifications of the public policy decisions we are currently making either by default or by action requires a deep understanding of climate and energy science and of economics. Because of the complexity of the issues involved mathematics and, most importantly mathematical modeling, play a central role. This talk looks at how we can simultaneously develop better decision-makers and help our students master the skills, knowledge, and perspectives that mathematicians bring to bear on consequential public policy decisions aimed at mitigating climate change. We focus on several classroom-ready examples for the undergraduate mathematics curriculum. For example, we examine the implications of various courses of action related to gasoline taxes. Interestingly, the problems that naturally arise involve more theoretical as well as applied mathematics. The examples we discuss have been used at all levels from freshman to senior including math majors as well as other majors and pre-majors. (Received September 21, 2011)