

1. Explain, using graphs and words (and equations, if necessary) how measures of willingness to pay or accept are good approximations for marginal changes in individual welfare. Describe the instances where it is necessary to use non-market valuation techniques to estimate WTP and/or WTA. (25%)

2. It was recently announced that the GenOn-owned coal fired power plant in Alexandria will be closing and will cease operation in October, 2012 (see <http://greatergreaterwashington.org/post/11870/breaking-alexandria-coal-power-plant-to-close-next-year/>). (50%)
 - a. Assume the closing had not yet been announced. Describe the steps you would take if you were asked to complete a cost benefit analysis of the closing of this power plant.
 - b. Describe in detail your thoughts on what and who should be included in Step 1, as well as the timeframe of analysis (this last part is more subjective, but be sure to explain your thoughts).
 - c. Describe in detail the physical impacts you expect to observe if the closing project commences (all impacts should be described in terms relative to the status quo). Will it be necessary to consult with experts (if so, who)? Try to list as many potential impacts that are relevant to your chosen affected population, including both costs and benefits.
 - d. Assuming the physical impacts have been identified, explain what valuation techniques you would use to assess any changes to both market and non-market goods and services that occur due to the closing (step 3).

3. Describe in detail how the compensating wage differential is used to derive an estimate for the value of a statistical life (VSL) under a wage-risk tradeoff scenario. Are there any problems with this approach or the assumptions underlying the theory? (25%)