Opportunity Cost 2

Suppose a project needs to hire 50 electricians. At the initial wage of 60K/year (including benefits) 480 are currently employed in the local area and 20 are estimated to be unemployed. The MEBT is 0.2. After electricians are hired for the project, the local wage increases to 65K/year and the number employed locally increases to 510. Estimate the opportunity cost of hiring the workers. Draw a diagram to illustrate. Explain, and defend any assumptions you make.

ANSWER

Since there is low unemployment, the labor market appears to be functioning efficiently, and we will value worker time at the market wage rate. Since the number hired is large relative to market size, we assume the wage is significantly changed by the program, complicating the analysis. See the figure.

$\Delta CS=-(65-60)460-(65-60)(480-460)/2=-2350$
$\Delta PS=(65-60)480+(65-60)(510-480)/2=2475$
$\Delta GS=-65\times50=-3250$
$\Delta SS=-2350+2475-1.2\times3250=-3775$

The opportunity cost is 3.775 $M/year.

*The increase in producer surplus exceeds the drop in consumer surplus by the area of the triangle abc, 125 $K/year.