Response to Questions

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# Response to Question 1

Fixed-Production Technology and Variable-Production Technology can be used to determine the optimal level of production to cause the optimal level of pollution. Fixed-Production Technology takes place when there is a fixed association between the rate of output and the creation of an externality. In this case, in order to reduce the rate of externality, the rate of output is reduced. On the other hand, Variable-Production Technology takes place when the externality made at any point of production can be decreased or controlled by changing the procedure of production (McEachern, 2011). The production is associated with the external cost to the environment by the emission of greenhouse gases and carbon monoxide. These gases once combined with other greenhouse gases result in an increase of global warming.

According to the book, society can only obtain the benefit of improved air quality when as long as the marginal social benefit obtained from clean air is higher than the cost (McEachern, 2011). This means that the only possible way of reducing pollution is with the financial support of people. According to the theory, if the government sets the goal of reducing marginal social cost, this plan would only be successful if people support it. If people are not willing to support this plan, setting goals will not work for reducing pollution and carbon emission. Looking at the current situation, people are not willing to support a cause at their cost and therefore setting a objective of decreasing the marginal social cost to nil will not work in the fixed production technology and variable production technology. The benefit can only be obtained if either the cost of decreasing emissions is low or the benefit of decreasing emissions is high. If the government set such targets, it may only reduce the level of output than the optimal solution of reducing pollution.

# Response to Question 2

The Lorenz curve is the pictorial illustration of wealth or earnings inequity in an economy. The Lorenz curve was first advanced in 1905 by the by Max Lorenz. On the horizontal axis, the graph plots the percentiles of the population as per the capital or earnings. On the vertical axis, it plots accumulating wealth or earnings. In this way the, the value of x and y would reveal the percentile of population that controls a share of percentage if the total wealth. This plot is often complemented with a straight sloping line that reveals the fairness in the revenue sharing (Chotikapanich, 2008). The actual or unequal distribution is reflected by the curve that lies underneath the portion of equal distribution. This curve is also used to compute the Gini coefficient that is another degree of inequality reflected as a section amid bent and straight line. Overall the Lorenz curve indicates the cumulative share of income from different portions of the population (“Lorenz Curve | Economics Help,” n.d.).

In Exhibit 2. The Lorenz curve displays the unequal distribution of earnings across the American household in the year 2010, in comparison with 1980. The vertical axis shows the increasing percentage of income while the horizontal axis displays the growing percent of households (McEachern, 2011). The Lorenz curve has moved towards the right as reflected by the red line. The point "a" shows that 83% of the household received 56.3% of all the income in the year 1980. While the point "b" shows that the portion of income going to 80% of the population is lower in 2010 as compared to 1980. The straight line is an indication of equal distribution, but the movement of the Lorenz Curve towards right shows uneven distribution.

# References

Chotikapanich, D. (2008). *Modeling income distributions and Lorenz curves* (Vol. 5). Springer Science & Business Media.

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McEachern, W. A. (2011). *Economics: A contemporary introduction*. Cengage Learning.