

A cost-benefit analysis based on our classroom exercise

In Wednesday's class exercise, we had 19 companies each capable of producing up to two goods. The produced goods could be sold for 12 cents each, but production of each good also resulted in 5 cents of "third party" damages. We tried out three methods for mitigating the third party effects. The results are described below.

Market results for the four cases based on the data sheets collected in class:

I. Status quo: 38 units produced

• Producer costs:	\$-2.42	(Sum of individual production costs)
• Producer revenue from sales:	+4.56	(38 units sold @ \$0.12 each)
• Consumer payments:	-4.56	(38 units bought @ \$0.12 each)
• Consumer value:	≥4.56	(At least this amount, probably more)
• Third party damages:	<u>-1.90</u>	(38 units produced @ \$0.05 each)

Net value from production: ≥\$0.24

II. Regulated output quantity: 19 allowed (21 produced*)

• Producer costs:	\$-1.03	(Sum of individual production costs)
• Producer revenue from sales:	+2.52	(21 units sold @ \$0.12 each)
• Consumer payments:	-2.52	(21 units bought @ \$0.12 each)
• Consumer value:	≥2.52	(At least this amount, probably more)
• Third party damages:	<u>-1.05</u>	(21 units produced @ \$0.05 each)

Net value from production: ≥\$0.44

(*Two companies produced two units, in violation of the regulation. An investigation has been launched by the appropriate regulatory authority.)

III. Environmental fees imposed: 20 produced

• Producer <i>production</i> costs:	\$-0.78	(Sum of individual production costs)
• Producer environmental fees:	-1.00	(Fees paid to regulatory agency, \$0.05 per unit)
• Government revenue from fees:	+1.00	(Fees collected by regulatory agency)
• Producer revenue from sales:	+2.40	(20 units sold @ \$0.12 each)
• Consumer payments:	-2.40	(20 units bought @ \$0.12 each)
• Consumer value:	≥2.40	(At least this amount, probably more)
• Third party damages:	<u>-1.00</u>	(20 units produced @ \$0.05 each)

Net value from production: ≥\$0.62

IV. Permit requirement: 22 produced*

• Producer <i>production</i> costs:	\$-1.02	(Sum of individual production costs)
• Producer permit costs:	-0.66	(22 units @ auction price of \$0.03 each)
• Government permit sales:	+0.66	(Fees collected by regulatory agency)
• Producer revenue from sales:	+2.64	(22 units sold @ \$0.12 each)
• Consumer payments:	-2.64	(22 units bought @ \$0.12 each)
• Consumer value:	≥2.64	(At least this amount, probably more)
• Third party damages:	<u>-1.10</u>	(22 units produced @ \$0.05 each)

Net value from production: ≥\$0.52

(*Four units produced beyond the 18 permits sold, however lax regulatory practices made it impossible to determine who owned permits and who didn't. All producers were charged the permit fee for each unit produced. An investigation of the regulatory agency has been launched by Congress.)

ENCO 4312-001 – Third Assignment – Environmental policy options
Assignment due November 10 at class time.

Choose one of the following two options which call for you to write about issues we have discussed in class. (Note that if you missed class on Wednesday, you will not be able to complete the first option – because it calls upon you to report on that experience – and so must choose the second option.)

Please turn in your homework in MS Word or Adobe PDF file format, via email.

Option 1: Reflect on the readings on pollution permits (Stavins, “Lessons learned...”; Burtraw and Evans, “Tradable permits...”), your experience in the class exercise on Wednesday, and the results presented on the opposite side of the page, and then answer the following questions:

1. Considering the three alternative control methods implemented in cases II, III, and IV, which of the methods do you think would work best in practice? Why? Use a quote (just one or two sentences, no more) from either the Stavins or the Burtraw and Evans reading to support your position. (Answer in between 200-300 words; the quoted material should be included in the word count.)
2. In two of our classroom cases, II and IV, we had violations of the stated environmental program rules. Do these violations suggest any real-world concerns about the effectiveness of different approaches to regulating third-party effects? Why or why not? (Answer in 50-100 words)

Option 2: Read the article “Pollution Credits Let Dumps Double Dip,” Wall Street Journal, October 20, 2008 (<http://online.wsj.com/article/SB122445473939348323.html>).

Decide whether you think landfills that capture methane and sell it for fuel should qualify to earn “carbon credits” such as those trading on the Chicago Climate Exchange, and then write a 400-word response to the article in the form of a letter to the editor in which you justify your position.

Your response should:

- State your position clearly and provide justification for your position.
- Use a quote (just one or two sentences, no more) from either the Stavins reading or the Burtraw and Evans reading to support your position. Make sure it is clear how the quote supports your position.
- Your response should be approximately 400 words (less than 450, but more than 375) total. The quoted material should be included in the word count.