## Environmental Justice and Pollution Credits Trading Systems

As executive vice president for West Coast operations of Westco Oil Company, Jeremy Bentley was proud of the environmental accomplishments of his company in California. Emissions at the company's Long Beach refinery had been reduced, and oil spills at its marine terminal in El Segundo had been reduced dramatically.

Jeremy was aware of the Environmental Protection Agency's environmental justice campaign and supported its concern about the siting of facilities, such as hazardous waste disposal sites, in areas in which minorities and the poor were overrepresented. He was shocked, however, when Westco was confronted by the environmental justice movement. Not only were the arguments made by the activists novel, but they also struck at the heart of the evolving system of air pollution control being implemented in the Los Angeles area and elsewhere in the United States. That system emphasized attaining environmental goals using the least costly means of abatement. Attaining the goals at least cost to society required greater reductions in emissions at facilities with low costs of abatement and smaller reductions at facilities with high costs of abatement.

To implement this system the South Coast Air Quality Management District (AQMD) had established a pollution credits trading program that allowed abaters to earn credits for emissions reductions and sell those credits to emitters of pollution that had high costs of abatement. The trading of credits reduced the aggregate costs of attaining environmental goals, and the AQMD had supported the development of markets in credits. Under one program approved by the AQMD, automobile scrap yards bought old, high-pollution automobiles for $600 to $700 and received a credit that they could sell either to the AQMD, a company such as Westco, or an environmental group. If a company purchased a credit, it would not have to reduce its emissions by as much as it would otherwise have to reduce them. Under Jeremy's leadership Westco had participated in the AQMD program and purchased credits that it used at its marine terminal. Jeremy had also purchased credits through other programs and used those credits at its Long Beach refinery.

Environmental justice and pollution credits trading systems collided in July 1997 in Southern California as environmental groups and advocates for low-income groups, led by the interest group Communities for a Better Environment, filed lawsuits seeking to force the EPA to rescind the authority granted to the AQMD and the California Air Resources Board to operate a pollution credits trading system. One focus of the lawsuits was the pollution credits trading system and the purchase and scrapping of old, high-pollution automobiles. One lawsuit filed by Communities for a Better Environment against five oil companies including Westco alleged that residents in San Pedro and El Segundo had been exposed to harmful hydrocarbon emissions because the companies violated the federal Clean Air Act by failing to reduce emissions at their marine terminals. Instead, the companies had earned pollution credits by purchasing and scrapping 7,400 old cars as allowed under the AQMD program. Westco had been one of the leading purchasers of the credits.

Unocal, which had initiated the program to purchase and scrap high-pollution cars, operated a subsidiary, Eco-Scrap, that purchased old cars for companies that wanted to earn pollution credits. Spokesman Barry Lane said, "We still believe that the emission control program is of great value, it makes good sense."[85]

In another lawsuit, the Center on Race, Poverty and the Environment and the National Association for the Advancement of Colored People joined Communities for a Better Environment in alleging that the pollution credits trading system violated the civil rights of minorities by subjecting communities in which they were disproportionately represented to high levels of health-threatening pollutants. The lawsuit cited Title VI of the Civil Rights Act of 1964, which prohibits discrimination, such as against minorities and women, in programs and activities receiving federal funds.

In conjunction with the filing of the lawsuits, the activist and advocacy groups held a press conference at which local residents told of the harmful effects of the pollutants. Fifth-grader Laurie Johnson, who was on medical leave from

[83] *San Jose Mercury News*, March 11, 2011.
[84] Ibid.
[85] *Los Angeles Times*, July 23, 1997.

Wilmington Park Elementary School, reported that she and other children at the school had health problems attributable to the emissions. She said, "It's time for our corporate neighbors to be responsible and give us a hand."[86] Sixty-nine-year-old Lily Camarillo, who lived near a Texaco refinery, said, "I've raised several kids there, lost three others and you wouldn't believe the problems we've had. Headaches, sick stomachs; my daughter has leukemia."[87]

Richard Drury, attorney for Communities for a Better Environment, turned the pollution credits trading system principle on its head by arguing that it exposed residents to the equivalent of "thousands of cars idling at each marine terminal." He also said, "It's a good thing to get old cars off the road; they cause a lot of pollution. But you don't trade the health of workers and the residents who live near those facilities in exchange for that."[88] Later on CNN he said, "If you have enough money, you can buy enough pollution credits and pump out as much pollution as you want to. That's going to create toxic hot spots."[89]

AQMD spokesman Tom Eichorn stated, "These people think they're being affected by air pollution problems … our job is to respond to their complaints." But he added that the agency did not believe that emissions were higher than before the pollution credits trading system was instituted.[90] Barry Wallerstein of the AQMD said, "The preliminary analysis by our legal department indicates that we're in full compliance with federal law."[91] "James Lents, the AQMD's outgoing executive officer, said he believes that the agency is not violating civil rights because toxic hot spots around industries are reduced under a separate rule, which prohibits fumes that pose a risk exceeding 100 cases of cancer among every million people exposed. However, that standard is less stringent than environmentalists and some health officials have wanted. AQMD board members, skeptical of the cancer danger posed by the [hydrocarbon] fumes, set the scaled-back standard in 1994."[92]

Faced with moral accusations, lawsuits, and community pressure, Jeremy had to decide what to do. First he wanted to evaluate the moral claims being made by the activists and residents. Then, he would have to assess whether their claims, if morally supported, warranted a change in Westco's environmental protection programs. Jeremy also wondered whether he should meet with the residents or the activists to see if there was common ground from which they could work to resolve the issues.

## ENVIRONMENTAL JUSTICE

The environmental justice movement began with concerns raised by activists that the poor and minorities were disproportionately affected by pollution. Since housing prices were naturally lower near industrial areas, low-income individuals tended to disproportionately locate in those areas. Concern for their well-being centered not only on issues of poverty and opportunity but also on the effects of pollution on their health. In 1992 the EPA issued a report raising the environmental justice issue. When President Clinton appointed Carol Browner, an environmentalist who had worked for Vice President Al Gore, to head the EPA, she initiated an environmental justice program. In 1994 President Clinton issued an executive order directing federal agencies to ensure that public health and environmental programs were nondiscriminatory and provided environmental justice. The president referred to Title VI of the Civil Rights Act in his order.

Many environmental interest groups and activists opposed the use of pollution credits trading systems. Some were suspicious of using incentive systems to control a social bad such as pollution. Some preferred uniform command-and-control regulations that forced a direct abatement requirement on all pollution sources and hence would result in a similar reduction in pollution in every locale rather than different levels of abatement across locales, depending on where the pollution credits were used. More fundamentally, however, most of the activists preferred lower emissions than allowed by legislation and EPA regulations.

As some commentators observed, with the mainstream environmental groups "under the thumb of Vice President Al Gore, their political patron," the cause of environmental justice has been led by some of the smaller and newer environmental interest groups.[93] In the 1990s those groups emphasized the twin themes of health, particularly for those at risk, and of environmental justice. These groups argued that pollution control policies should take into account the special interests of low-income people who disproportionately live and work in areas of high pollution. President Clinton and Vice President Gore embraced both the concept of environmental justice and the use of pollution credits trading systems.

In 1997 the U.S. Court of Appeals gave individuals the right to challenge state environmental permits on the grounds of a disparate effect on low-income and minority groups. The Supreme Court, however, chose to review the decision.

As the EPA began its implementation planning, the environmental justice movement met with increasing opposition as business groups and members of Congress became concerned about the objectives of the movement and the consequences of such a policy. The U.S. Chamber of Commerce and the National Black Chamber of Commerce led a campaign to revoke the EPA's environmental justice program.[94] "We fully support the U.S. Chamber's efforts to repeal the EPA's misguided policy," Black Chamber president Harry Alford said. "This represents the beginning of a close working relationship between the U.S. Chamber and our organization to support black businesses around the country."[95] "It's an economics problem; it isn't race," Alford said. "If you're going to dump trash, you're going to dump it on land that's cheap. We feel the EPA is exploiting the Civil Rights Act and exploiting

[86] Copley News Service, July 23, 1997.
[87] Ibid.
[88] *All Things Considered*, National Public Radio, July 24, 1997.
[89] *CNN Today*, August 1, 1997.
[90] Copley News Service, July 23, 1997.
[91] *CNN Today*, August 1, 1997.
[92] *Los Angeles Times*, July 23, 1997.
[93] *In These Times*, July 28, 1997.
[94] The National Black Chamber of Commerce had 180 chapters representing 62,000 black-owned businesses.
[95] *Washington Times*, July 20, 1998.

the black communities in an attempt to gather a vocal constituency in its ever-growing fight against big business."[96]

Alford was particularly concerned that the policy would drive jobs away from the areas in which minorities live. He pointed to the case of a permit sought by Shintech, a Japanese-owned company, to build a $700 million polyvinyl chloride plant in Louisiana's St. James Parish. Local activists had protested the plant, even though it would bring badly needed jobs to the parish.

Alford and others also argued that the EPA's environmental justice program would hinder attempts by cities to attract businesses to so-called "brownfields," some half million abandoned industrial sites, most of which were located in inner city areas. The U.S. Conference of Mayors spoke out against the EPA's environmental justice program, urging the EPA to develop a new policy that would encourage rather than hinder brownfield developments.

Congress also took an interest in the EPA program. The House Appropriations Committee inserted language in the EPA's fiscal 1999 appropriation barring it from taking any new civil rights actions under the program. The House Commerce Committee launched an investigation of the EPA's environmental justice program.

In a challenge to President Clinton, Carlos Porras, director of Communities for a Better Environment for Southern California, said, "[Environmental justice] is a defining issue for the president's administration. This has national significance and we're very interested to see where the Clinton administration draws the line."[97]

## POLLUTION CREDITS TRADING SYSTEMS

For decades economists and business leaders had advocated the use of pollution credits trading systems to achieve environmental objectives at the least cost to society. Pollution credits trading systems had been implemented in the Midwest and Northeast for sulfur dioxide and nitrogen oxides, and several systems were in place in Southern California to control a number of pollutants. Many other states were considering using similar systems, and with the recent promulgation of costly new federal regulations regarding microscopic airborne particulates, additional states and regions were expected to consider these systems.

To illustrate the difference between pollution credits trading systems and the traditional command-and-control approach, consider an environmental objective of reducing emissions of hydrocarbons by 50 percent in the oil industry in the Los Angeles basin. Under a command-and-control system all pollution sources would be required to reduce their emissions by 50 percent. In a pollution credits trading system the 50 percent reduction would be achieved by requiring a source to hold a permit for each pound of hydrocarbons emitted. Permits would be issued equal to 50 percent of the pre-reduction emissions. For example, one permit could be issued for each pound of hydrocarbon emissions allowed with the permits allocated among the emitters according to some baseline such as their prereduction emissions. Then, an emitter with low costs of abatement that reduced its emissions below the number of permits it was allocated could sell its excess permits, or credits, to an emitter with high costs of abatement, which would reduce its emissions by less than 50 percent. Thus, low-cost abaters would reduce their emissions by more than high-cost abaters, allowing the environmental objective to be achieved at the lowest total cost. In characterizing pollution credits trading systems, David Roe, a senior attorney for Environmental Defense, said, "What this allows for the first time is that companies that have the technical ability to go beyond the law in reducing their emissions have a reason to do it."[98]

**TABLE 12-5**

| Pounds Abated | Costs of Abatement by Source ($) | | |
|---|---|---|---|
| | a | b | c |
| 100 | 10 | 15 | 20 |
| 200 | 20 | 30 | 35 |

As an example, consider a region with three pollution sources *a, b,* and *c* in locations *A, B,* and *C,* respectively. Suppose the sources each have been emitting 200 pounds of hydrocarbons and that the new environmental objective is to cut emissions by 50 percent to 300 pounds in total. Also assume that each source is allocated 100 permits. Suppose that the costs of abatement for each source are as given in Table 12-5.

For example, if source *a* were to abate 100 pounds, its cost would be $10, and if it were to abate 200 pounds, the cost would be $20. The corresponding costs for source *c* are $20 and $35, respectively. If under a command-and-control system each source were to reduce its emissions by 100 pounds, the total cost of the 300 pounds of abatement would be 10 + 15 + 20 = $45.

The environmental objective of a 300-pound reduction can, however, be attained for $35 if *a* reduced its emissions by 200 pounds (at a cost of $20) and *b* reduced its emissions by 100 pounds (at a cost of $15). Source *a* would then have zero emissions, *b* would have emissions of 100, and *c* would have emissions of 200.

For this outcome to be realized, source *c* must purchase 100 credits. By purchasing the 100 credits, *c* would avoid the abatement cost of $20 that it would incur if it were to abate 100 pounds. By reducing its emissions by 200 rather than 100 pounds, *a* incurs a cost of only $10. Since *c* is willing to pay up to $20 for 100 credits and *a* requires only $10 of compensation to reduce its emissions from 100 to 0 pounds, the two sources can reach an agreement. Thus, source *a* reduces its emissions by 200 pounds, source *b* reduces its emissions by 100 pounds, and source *c* purchases 100 credits from *a* rather than reducing its emissions. The equilibrium price for a credit is $15, since

[96] *National Journal*, July 11, 1998.
[97] *Los Angeles Times*, July 23, 1997.
[98] *Wall Street Journal*, July 24, 1997.

if *a* were to attempt to sell credits for more than $15, *b* would offer to sell credits for slightly less. Then the competition between *a* and *b* would drive the price down to $15. Similarly, if the price were less than $15, *b* would offer to buy credits from *a*. Then *b* and *c* would compete for the credits, driving the price up to $15. The distribution of the cost of achieving the environmental objective with a price of $15 is then $5, $15, and $15, respectively, for sources *a, b,* and *c*.

In designing a pollution credits trading system, an important factor is the geographic region the system covers. The basic principle is that the region include those affected by the emissions, as in the Los Angeles basin. Then the focus is on the aggregate reduction in emissions in that region rather than in specific locations. In the example, a reduction of 200 pounds was achieved by source *a* and 100 pounds at *b*. This result can also be stated in terms of the remaining emissions, which are 0, 100, and 200 pounds in locations *A, B,* and *C,* respectively.

## Preparation Questions

1. Evaluate a pollution credits trading system from the perspective of a system that maximizes aggregate utility.
2. Compare command-and-control and pollution credits trading approaches in terms of economic efficiency.
3. Evaluate the claims of the activist and advocacy groups based on conceptions of justice. Is the AQMD's "separate rule" for hot spots an appropriate response to justice concerns?
4. Do oil companies have a duty to reduce their emissions at their marine terminals and refineries rather than purchasing credits, even though doing so would reduce the efficiency of the pollution credits trading system?
5. What should Jeremy Bentley do and why? Should he voluntarily stop purchasing credits? Should he meet with the residents and activists?

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