

*Persuasion in technical-writing courses: As discussed in Chapter xx, technical-writing courses are not normally venues for the standard editorial essay. At the same time, you must be ready to produce persuasive documents with highly technical content—such as this one.*

*Rebuttal and concession approach: this report is structured as a series of rebuttals to the common objections to recycling. The writer answers these objections one by one. Remember that a rebuttal is an answer to an objection or counterargument to your point of view.*

*Title: even the title is a rebuttal!*

*Introduction: Notice that in three sentences, this introduction creates some interest, indicates the purpose of the document, and provides an overview of what follows.*

*Illustrations: Normally, in a technical-writing context, decoration has no place. But here, it does. It reminds us of the environment, endangered species, and other such related matters. And so does the inclusion of illustrations of endangered species created by eleven-year-olds.*

*First rebuttal: this writer begins by countering what recycling critics claim is the number 1 problem with recycling—that it's a hassle. He answers this claim by showing how much recycling activities have increased. Does this rebuttal work?*

## Persuasive Technical Writing

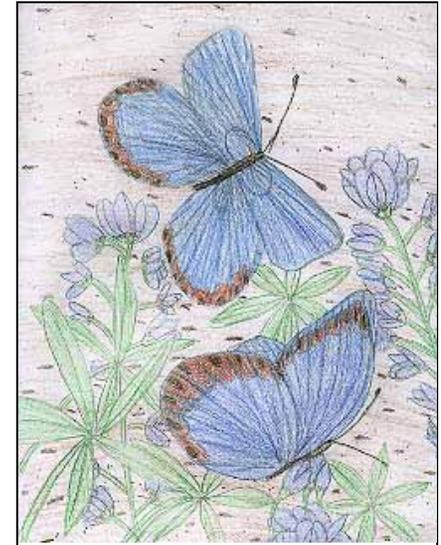
### Recycling: Not a Waste of Money or Time!

In the last decade of the 20<sup>th</sup> century, the recycling movement in the U.S. has come under increasing attack from various parts of the media and industry—even though the U.S. public has dramatically increased its recycling activities in that same period. Any recycling startup effort must be aware of the arguments of these opponents. The following reviews these arguments and explains how they are exaggerated or just plain wrong.

#### Recycling Is a Hassle

The most common argument against recycling is that it's a hassle. Opponents have always insisted that ordinary citizens would not take the time to sort the recyclables from their trash.

"Karner Blue Butterfly," Charlene Hanneman, Age 11, Wisconsin Rapids, WI. Winner of Environmental Defense Fund's Endangered Species Art Contest. [www.edf.org/Earth2Kids/ArtContest99](http://www.edf.org/Earth2Kids/ArtContest99)



Despite these claims, the number of municipal curbside recycling collection programs climbed from about 1,000 to 8,817 during the period from 1988 to 1996, according to *BioCycle* magazine. Recycling programs like these are now available to 51 percent of the population. Facilities for composting yard trimmings grew from about 700 to 3,260 over the same period. These efforts complement more than 9,000 recycling drop-off centers and tens of thousands of workplace collection programs. According to the EPA, the nation recycled or composted 27 percent of its municipal solid waste in 1995, up from 9.6 percent in 1980.

#### Recycled Materials Are More Expensive To Use

Opponents typically characterize the recycling movement as misguided altruism that is both unnecessary and expensive. Certainly, the goals of the recycling movement have always included reducing environmental damage from activities such as strip mining and clearcutting in favor of conserving energy, reducing pollution, and minimizing solid waste in manufacturing new products. However, a number of recent major studies have shown that recycled materials, because they

Second rebuttal: *The second argument against recycling involves economics. The writer counterargues by referring to studies that prove recycled materials are actually less expensive. (But wouldn't it help to see some numbers here?)*

Third rebuttal: *This objection to recycling jumps on the antigovernment bandwagon. The writer answers this objection in two ways: first, that the objection is promoted by organizations that are corporations threatened by the recycling movement; and second, that surveys of public opinion have shown recycling is generally supported.*

Transitions and lead-ins: *Notice that the first sentence of just about every individual rebuttal section begins almost heavy handedly with words like "Another common objection to recycling..." Although this might seem repetitive, it guarantees that readers know where they've been, where they are, and where they are headed in this document.*

have already been refined and processed, require less energy to use in manufacturing new products from them than do virgin materials and produce less pollutants which are expensive problem as well. (The studies were conducted by Argonne National Labs, the Department of Energy and Stanford Research Institute, the Sound Resource Management Group, Franklin Associates, Ltd., and the Tellus Institute.)

#### **Recycling Means More Intrusion by Big Government**

Another common argument against recycling is that it's just one more instance of big government intruding into every corner of our private lives. Actually, these arguments come primarily from think tanks, including the Competitive Enterprise Institute and the Cato Institute (both in Washington, D.C.), the Reason Foundation (in Santa Monica, Calif.), and the Waste Policy Center (in Leesburg, Va.)—all vigorous anti-recycling operations. These organizations are funded in part by companies in the packaging, consumer-product, and waste-management industries. These industries fear what might happen if consumers begin seeking environmentally friendly alternatives to these industries' products and services. Anti-recyclers maintain that government bureaucrats have imposed recycling on people against their will. They evoke images of Big Brother hiding behind every recycling bin. Yet several consumer researchers, such as the Rowland Company in New York, have found that recycling enjoys strong support because people believe it is good for the environment and conserves resources—not because they feel they have been forced into recycling by government edict.

#### **Recycling Is Expensive, Not Cost-Effective**

The argument that recycling is too expensive and not cost-effective is not only wrong but devious. Approaching the question as accountants, we must determine whether adding recycling to a traditional waste-management system will increase the overall cost of the system over the long term. The answer, in large part, depends on the design and maturity of the recycling program and the rate of participation within the community.

*Recycling-program maturity.* Costs decline as programs mature and expand. New curbside recycling collection programs are typically inefficient because they duplicate existing trash-collection systems. In time, cities increase the efficiency of their recycling collection systems by changing truck designs, collection schedules, and truck routes. For example, Visalia, Calif., has developed a truck that collects refuse and recyclable materials simultaneously. And Fayetteville, Ark., has added curbside recycling with no increase in residential bills by cutting back waste collection from twice to once weekly.

*Third-level headings: For longer sections, this writer uses third-level headings to indicate the topic of individual subsections. These are the “run-in” headings “Recycling-program maturity” and “Rate of participation.” Notice that these headings are italicized, use sentence-capitalization (first word only), end with a period, and are not a grammatical of the sentence s that follow.*

*Second-level headings: Because it’s relatively short, this document uses with second-level headings (unless of course you consider the title a first-level heading). Notice the parallelism of the phrasing in these headings—they are all complete sentences.*

*Concession: notice this example of concession. The recycling critics “rightly point out” that there are more trees in the U.S. than ever before. Concessions are a “yes–but” tactic: you agree with your opponent but then explain why that objection doesn’t matter or misses the point (as in this example).*

*Thanks to Richard A. Denison and John F. Ruston of the Environmental Defense Fund for permission to adapt this article from Anti-Recycling Myths: Commentary on Recycling is Garbage” (John Tierney, New York Times Magazine, June 30, 1996): [www.techreview.com/articles/oct97/recycle.html](http://www.techreview.com/articles/oct97/recycle.html)*

*Rate of participation.* As citizen participation in recycling programs increases, costs go down. Cities with comparatively high levels of recycling, per-ton recycling collection costs are much lower than in cities with low recycling rates. A North Carolina Department of Environment, Health, and Natural Resources study found that in municipalities with recycling rates greater than 12 percent, the per-ton cost of recycling was lower than that for trash disposal. Higher recycling rates allow cities to use equipment more efficiently and generate greater revenues to offset collection costs. Adding in increased sales of recyclable materials and reductions in landfill disposal costs, high-recycling cities can break even or make money from recycling.

### **We’re Not Running Out of Trees**

Anti-recyclers rightly point out that more trees are growing in the U.S. than ever before and that new forests are started as soon as trees are cut. However, this perspective fails to take into account that, in the southern United States, for example, where most of the trees used to make paper are grown, the proportion of pine forest in plantations has risen from 2.5 percent in 1950 to more than 40 percent in 1990, with a concomitant loss of natural pine forest. At this rate, the acreage of pine plantations will overtake that of natural pine forests in the South during the 1990s and will approach 70 percent of all pine forests the next few decades afterwards. While pine plantations are excellent for growing wood, they are far less suited than natural forests are for providing animal habitat and preserving biodiversity. Paper recycling extends the overall supply of fiber and can thus help reduce the pressure to convert remaining natural forests to tree farms.

### **Conclusion**

Recycling is not a threat to U.S. industry, an inconvenience, or another instance of big government invading private lives. We must get past these fears and half-truths and study how communities can improve efficiency and increase participation. Increasing the efficiency of municipal recycling, establishing price incentives, and capitalizing on the environmental and industrial benefits of recycling will enable recycling to meet its full potential.

### **References**

John Tierney, "Recycling is Garbage" *New York Times Magazine*, June 30, 1996.  
Richard A. Denison and John F. Ruston. "Anti-Recycling Myths." [www.edf.org/pubs/reports/armythfin.html](http://www.edf.org/pubs/reports/armythfin.html). See this source for all other references.