RECYCLING:
A STATEWIDE PROGRAM FOR NEW JERSEY

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Discussion by

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I would first like to congratulate Ms. Sheil on an excellent paper and presentation. What New Jersey has done is an innovative approach to solid waste management, and Ms. Sheil's paper should serve as a guide for other states to study and adapt to their own situation. At the very least, the New Jersey experience in the next few years will serve as an experiment from which others can study and learn.

I believe the state legislature and the office of recycling have taken a courageous step in implementing this recycling plan, but there appears to still be considerable latitude in shaping this program. It is crucial to long term success that the expenditures of the $6 million dollar annual recycling fund be directed to solving potentially serious problems.

I believe the most serious problem is one of markets. If the numbers given in Ms. Sheil's paper for 1986 recycling prove to be accurate, a severe disruption of secondary materials markets is possible. I will present some information on old news markets as an example. Basically, it appears that current waste news markets are in a state of serious oversupply. This condition is in part a function of current economic conditions. But, national data of old news consumption since 1970 show an underlying softness in use of old newspapers in traditional markets, with occasional sharp increases caused by either a new deinking plant coming on stream, or temporary demand by the cellulose insulation industry. The picture is not one of sustained growth which would support significant new recovery. While tons of old news consumed per year has not actually declined, prices paid are another matter. Recent examination of 34 years of waste paper prices dating back to 1947 shows that superimposed on the normal market fluctuations, there has been a steady decline in real waste paper prices, that is, prices corrected for inflation. In fact, current prices are at record lows, with a recent 4-year decline in old news prices representing the worst slump on record. Over-supply (or under-demand) appears to be the causative factor.

With this generally negative picture of old news markets in mind, we turn to the 1986 projections in Ms. Sheil's paper. If these projections are accurate, in 1986 New Jersey will supply nearly two-thirds of the news consumed in the middle Atlantic region, while that state represents only 20 percent of the population of the region. As there are no projections of sufficient new local news markets for this mostly new supply of waste paper, the probable effect is prices even lower than at present. The effects of this are hard to predict, but will certainly mean quite low prices to recycling projects (perhaps requiring taxpayer subsidy to remain in operation) and severe economic hardships to waste paper dealers. Perhaps prices will even be low enough that waste paper could be purchased
as a fuel. In addition, it should be observed that in the absence of significant new markets, waste paper supplies emanating from New Jersey will result in displacement of other existing supplies, ultimately resulting in increased disposal of valuable fiber in other states.

The cautionary statements about the old news markets should not be taken as a criticism of the New Jersey program. Rather, they are presented to reinforce the need for a carefully targeted program for the future. It should also be noted that over-supply conditions are possible for all secondary materials, although only news was used as an example. A suggested approach for New Jersey would be to concentrate on developing new markets for secondary materials. State procurement regulations are an important step, but hardly sufficient. A unified approach involving many areas of state and local governments would be desired. This could include granting incentives to businesses using secondary materials to locate in New Jersey, or for existing industries to increase their use of recyclable materials; promotional efforts by state economic development agencies would be helpful; and, intensive consumer education programs would help increase demand for recycled products. Finally, targeted marketing to secondary material consumers in other states may prove to be useful.

Development of new markets for secondary materials may be a more difficult job than recovering those materials. In Ms. Sheil’s paper, frequent reference is made to solving the market problems. I sincerely hope that future efforts in New Jersey will concentrate on this aspect in order that this be a successful program.

Discussion by

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By way of commenting on Mary Sheil’s paper “Recycling: A Statewide Program for New Jersey,” we thought it would be interesting to compare some aspects of the statewide recycling programs in California and New Jersey.

New Jersey’s program has a number of appealing aspects which serve to balance the needs of different interest groups, the recyclers, the industry, and the community. New Jersey’s surcharge on landfilled wastes exemplifies the program’s basic concept of placing responsibility of waste reuse and prevention on the waste generator. Hopefully, this concept will gain further acceptance in other parts of the country.

Although the concept was contained in California’s program, a loophole in the law made the surcharge provision unproductive.

CALIFORNIA’S SB-650 PROGRAM

In 1977 California adopted legislation for “comprehensive” solid waste management, particularly in areas of litter control and recycling. The legislation, “State Litter Control, Recycling and Resource Recovery Act of 1977, SB-650,” was developed more as a response to advocates of a mandatory container deposit law than as a need for solutions for recycling and waste management problems in California.

However, SB-650 did address more problems than beverage container litter and one of its more comprehensive aspects was the generation of a grant program to initiate and expand reuse and recycling in California.

Initially, the SB-650 program was a 5 year grant and loan program supported jointly by a special tax placed largely on targeted “waste generating” manufacturers and a $0.25/t surcharge on landfilled wastes. During the first year the tax and surcharge was expected to generate about 22 million dollars for grants. The grants were initially earmarked for seven different areas of litter control and resource recovery. These included:

Section 68043 – Litter Cleanup
Section 68046 – Resources & Energy Recovery
Section 68047 – Recycling Centers
Section 68048 – Education & Public Awareness
Section 68049 – Litter Law Enforcement
Section 68050 – Litter Recepticles
Section 68051 – Special Recycling Projects

The pie chart in Fig. 1 shows the distribution of funds for these areas.
During the first year of implementation, which came on the heels of the passage of California’s property tax repeal law, Proposition 13, a vigorous protest from the business community nearly eliminated the entire program. As a result, the tax was lowered and transferred to the general corporations tax. Also, a loophole in the surcharge provision which exempted dump operators who could show reasonable effort in recycling, eliminated any funds from this source. The net result was to cut the total funds available for grants by over 50 percent.

Over the years the amounts of funding available for recycling have steadily decreased, and the criteria and restrictions have become tighter. Last year’s recycling grants totaled just over $1.5 million and were for implementation of multi-material curbside collection and drop-off programs only.

**SOME COMPARISONS**

One interesting difference in the two state programs, which may ultimately be the key to its success, is the more specific identification of the needs and goals for recycling in New Jersey’s program. New Jersey estimated a need of approximately $30,000,000 over a 5 year period to achieve a recovery goal of 1.8 million tons/year. In doing so they developed detailed cost-revenue profiles for three types of recycling programs. The identification of a clear, cost per ton figure (even though it may not be precise), could be the best protection against attempts to reduce funding in future years.

In contrast, the California State Solid Waste Management Board has never identified specific recycling needs or goals other than to achieve a 25 percent reduction in landfill disposal through recycling and waste prevention. Without this information the appropriate levels of a surcharge or tax have been somewhat arbitrary, and the program has suffered from this lack of direction and justification.

California, however, is beginning to develop some detailed information on the actual costs for start-up and operation of a few of the curbside collection programs it funded in the first round of grants. Resource Management Associates recently completed some case reviews of recycling programs in the cities of Palo Alto, Downey and Fresno for the state Board. [1].

These studies found a wide range in costs for these programs which ranged from $39.14/t in Palo Alto to $207.10/t in Fresno for startup and operating costs. The programs are designed quite differently and operate at varied levels of efficiency.

In contrast, New Jersey’s projected startup costs of $16.70/t year may prove to be adequate. However, their projected net operation costs are probably too low because of overestimated revenues from sale of materials, and underestimated labor and operation costs.
Other comparisons between the two programs are summarized in Fig. 2.

In addition, one aspect of both programs which we feel requires more emphasis is the development of the demand site for materials recovery.

In New Jersey’s statewide program, the capacities of current markets for new, additional tonnage are not clearly or realistically identified. For example, projected 1986 tonnage of newspaper recovery is 432,000 tons per year (TPY) while the current state capacity is 480,000 TPY. If all of the news is sold within the state, current tonnage coming from surrounding states will be displaced. The net result could be an excess supply which will very likely lower the prices projected in their profiles ($40/ton). There seems to be an assumption in both of these programs that, if the supply of recyclables can be generated, the demand for them will take care of itself.

Perhaps a better use of some of the funds might be to provide generous tax credits for expanding industry capacity, such as Oregon’s 35 percent recycling tax credit. In this way the program stimulates both a reliable supply and a strong demand at the same time. By addressing both sides of the economics, the program can better achieve its goal of recovering the most amount of materials at the least cost.

In California the Board recently completed a $200,000 marketing study to identify some of the factors inhibiting the marketing of secondary materials and to recommend specific state actions for increasing their demand. [2]. Unfortunately, the specific activities recommended are coming forth in the sunset year of SB-650, when the current climate requires drastic cutbacks in government spending.

If grant funding for market development survives this year’s budget cuts, the California Board will be looking at projects which will help stimulate demand and try to implement some of the recommended activities in their marketing report.

**EXPANDED PROGRAMS AND MATERIALS**

Another area of similarity is the program’s emphasis on curbside-only designed programs. Obviously, frequent curbside collection is a necessary ingredient of any successful recycling program. But there are some drawbacks in design of a program based only on this mode of recovery. These are:

1. Usually only three types of materials can be collected by curbside trucks in substantial quantities.
2. Only one mode of recycling is offered by a curbside program.
3. Other materials which can be recovered more efficiently by other means are ignored.

Curbside vehicle systems have a difficult time collecting three categories of materials, usually cans, glass and news, without adding other materials such as cardboard, mixed paper, plastics, or oil. For efficient collection, the curbside vehicle must be designed to maximize the load for each of the three categories of materials which vary in volume from season to season and route to route, as well as from community to community.

Drop-off centers play an important role in providing a collection point for a broader range of materials. The convenience of being able to accept materials at any time helps those who miss their curbside day (particularly in monthly programs), and a center can often serve as a focal point of...
the program to help with the promotion and educational aspects. A drop-off center can also be an intermediary processing center which can upgrade the recyclables and produce greater revenues for the program.

Buy-back recycling, where the public is paid for recyclables delivered to the center, is another aspect of a more comprehensive program. Buy-back is more efficient and usually generates excess revenues which can be used to offset other program costs. Buy-back is important since its different appeal often generates new tonnage not otherwise collected by drop-off and curbside programs. Contrary to some projections, all these approaches are complimentary, rather than competitive. By operating together they recover 20 to 25 percent of the residential waste streams in at least two programs in California, El Cerrito and Davis.

Other types of programs targeting special materials can help recover a much greater percent of a community’s waste stream. Special recycling programs in office buildings and commercial areas can recover large quantities of high grade paper and other materials. Yard waste collection and separation at landfills can recover plant wastes, another 25 to 30 percent of most waste streams, for composting to be used in city parks, for landfill cover material, or sold directly to the public.

Used motor oil, plastics and tires are other wastes which can be targeted for other types of recycling programs. Altogether these programs can recover, reuse, and recycle a more significant part of the waste stream than any one portion operating alone. The City of Palo Alto, California is projecting a recovery of 50 to 60 percent of their waste stream when their composting project becomes fully operational and compliments their drop-off, curbside collection, and other recycling programs. [3].

In summary, the New Jersey recycling program is well planned and designed. It seems to be off to a good start with a high level of community interest and support. With improved markets, and more emphasis on increasing market demand and recovery of a wider range of materials, we see a promising future for the success of New Jersey’s statewide recycling program.

REFERENCES