The Monthly UnEconomist

Think Globally, Pay Locally

During the 1990s many public and private agencies instituted "Buy Recycled" procurement guidelines that encourage or require purchase of recycled-content products, often at prices up to 10% above similar products manufactured from virgin raw materials. Households often follow similar principles, with some extending the practice to buying organically grown and processed foods that cost more than conventionally produced groceries.

Such product preferences are based on an expectation that these actions ultimately help reduce pollution, save energy, and/or conserve natural resources, habitat for certain species and ecosystems (the habitat for all earth's inhabitants).[1] Purchasing recycled-content products also is expected to improve markets for materials recycled from household and business solid wastes.

In evaluating the latter belief it is important to make a distinction between local and national or international markets. No one has yet produced a rigorous study proving or disproving the proposition that recycling markets are improved by buying recycled-content products. Despite this lack of rigorous proof, Buy Recycled campaigns or other procurement policies that specifically promote purchase of locally-produced, recycled-content products do appear to be beneficial -- e.g., in increasing local use of yard debris compost or construction aggregates made from recycled glass containers.

More general efforts to strengthen recycling markets also can provide substantial benefits for local recycling markets. For example, introduction of technology to manufacture newsprint from residential mixed paper at Abitibi's Steillacom newsprint mill helped maintain strong prices for mixed paper in the Puget Sound Region of Washington State during the 1997-98 market slump. Over that same period of time the mixed paper market crashed in other parts of North America and in Pacific Rim nations where US recyclers often market mixed paper. The development of this local market for mixed paper was in part facilitated by the demand for recycled-content newsprint generated over the past decade through state and local government efforts to convince newspaper publishers to use recycled-content newsprint.

On the other hand, the influence of procurement campaigns and policies on global recycling markets, and in particular on national and international recycling market prices, is likely to be quite limited. An examination of the relationship between prices for virgin and recycled materials illustrates the problem.

Virgin material prices set an upper bound for recycling prices. Absent non-market constraints, such as enforceable and enforced recycled-content requirements, no manufacturer will pay more for recycled materials than for virgin. The latter have more precise specifications and tighter quality controls. Manufacturers, thus, incur lower production costs when using virgin materials, so they cannot afford to pay as much for recycled materials as for virgin material feedstocks.[2]

Prices for virgin materials are determined on international commodity markets. As a result, even if a local or state government's procurement campaigns and policies caused every household and business in the city, county or state to switch to recycled-content products, the general price level for recycled materials would hardly be affected.

This fact, in turn, means that buying recycled-content products will not generally increase revenues received by sellers of recycled materials. Household and business product purchasing habits can improve the economics of recycled-content product manufacturing. But they do little for the economics of local recycling collection programs. In this situation, barring some historically unprecedented permanent increase in virgin material price levels[3], postponing recycling or canceling recycling programs that lose money until recycling market prices improve enough to make recycling cost effective is on par with waiting for Godot or the Second Coming.

Why Paying More for Recycling Is Often the Right Thing to Do

Many cities in the United States charge, or require their contracted hauler to charge, residential and/or commercial garbage collection fees/rates that provide augmented incentives to divert waste from disposal. One example is garbage rates that increase at least in proportion to increases in the amount of garbage set out for collection. Such pay-as-you-throw rate structures differ significantly from more traditional cost-of-service garbage collection fees. The latter in effect give a volume discount for additional amounts of garbage, based on efficiencies achieved when more waste is collected during one stop at a household or business.

Another example of a financial incentive that promotes diversion is curbside recycling and/or curbside yard waste collection available at no additional charge beyond what each household or business pays for garbage collection. This might be called financially mandatory recycling, embedded recycling, or bundled recycling – the household or business using a garbage collection service pays for recycling and/or organics collection in their garbage bill whether they choose to recycle or not.

Garbage by the unit (bag or can) and financially mandatory recycling both can mean that some garbage collection customers -- e.g., those customers who ignore the incentives and don't recycle -- pay garbage bills that are higher than is strictly justified by costs for collecting and landfilling or incinerating their garbage. Such economic incentives for diversion are backed up in some cities by cost analyses showing that total citywide expenditures for garbage, recyclables and organics are lower when more waste material is managed via recycling and composting rather than landfilling or incineration.

Unfortunately, not all communities enjoy that combination of strong recycling markets, low composting costs and high garbage disposal fees that makes increased waste diversion through curbside collection of recyclables and/or organics cost-effective. Yet some of these not so fortunate cities also use economic incentives to motivate households or businesses to recycle more waste.

If it doesn't lower a city's solid waste costs, what possible justification is there for making some or even all garbage collection customers pay more than what they would pay if garbage rates were based only on their individual garbage collection and disposal costs? The answer is not so surprising. Recycling and composting can result in lower solid waste costs for the larger community – be it county, region, state, country, the whole planet, or future as well as current inhabitants. Hence the slogan used as a title for this article: Think globally, pay locally -- a derivative of the widely understood rubric: Think globally, act locally.

Global costs and benefits are now often considered, along with local costs and benefits, when full cost accounting or lifecycle costing methods are used to evaluate waste diversion versus disposal options. Regional and global benefits from waste diversion are an important offset to increments in local solid waste costs that might be caused by more aggressive waste diversion strategies. In most cases these global benefits significantly outweigh increased costs in the local solid waste management system by a substantial amount.

What Is To Be Done? Use Economic Incentives To Drive Garbage Minimization

Across the country communities are struggling with residential recycling programs that have stalled or that appear financially unsustainable. Some are backing away from recycling, or taking indirect and often relatively ineffective steps such as spending significant amounts of money on additional recycling advertising campaigns or on dissecting the contents of household garbage cans *ad infinitum* (bean counting for frustrated recyclers).

By contrast, implementation of three economic incentives will lead directly to substantial decreases in garbage disposal and substantial increases in recycling rates. In fact, residential recycling rates in communities using all three incentives are estimated to be at least twenty-five

percentage points higher than communities that do not employ any of these incentives.[4]

1. Bundle Curbside Recycling with Garbage Collection

Access to recycling collection that is as convenient as garbage collection, and that is available at no additional charge to garbage collection customers***, decreases garbage disposal and increases diversion by more than ten percentage points***.

2. Bundle Curbside Yard Debris with Garbage Collection

Access to yard debris collection that is as convenient as garbage collection, and that is available at no additional charge to garbage collection customers, ***decreases garbage disposal and increases diversion by more than ten percentage points.*** Alternatively, an effectively enforced ban on collection of yard debris in garbage, combined with a curbside yard debris collection fee that is very low compared with the fee for weekly collection of a second 32-gallon can of garbage, also increases diversion to a similar extent.

3. Charge for Garbage Collection by the Can or Bag

Residential garbage collection fees often provide a discount to households that generate more garbage. By contrast, restructuring garbage rates to eliminate the volume discount incentive for generating more garbage ***increases waste reduction and recycling by at least 4 percentage points.***

Implementation of all three economic incentives, along with collection of the full range of household recyclables including mixed paper, will in most cases result in a community's diverting 50% or more of its residential waste stream from disposal. Although rigorous studies have not yet been conducted on businesses, it would be surprising if similar incentives were not also as effective at reducing and diverting commercial solid wastes.

About The Monthly UnEconomist

This monthly online newsletter available at www.SoundResource.com intends to provide insight and analysis on the everyday economics of recycling and the unpriced or underpriced environmental benefits of reducing waste disposal and replacing virgin-content products with products manufactured from recycled materials. Reader feedback is encouraged via email to info@ZeroWaste.com, and substantive comments will be published whenever they add to our understanding of recycling.

The *UnEconomist* also analyzes northwestern and northeastern U.S recycling market prices for nine recycled materials (mixed paper, ONP, OCC, glass containers, tin cans, UBC, PET bottles, HDPE natural bottles, and HDPE colored bottles) tracked by graphs available online at www.SoundResource.com. These graphs are updated at least every other month. *The UnEconomist* will from time to time report on the accuracy of the annually updated five-year recycling price forecasts that are also provided online for each of the nine materials.

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[1] For a discussion of the benefits human society derives from the earth's ecosystems see Costanza, *et al*, "The value of the world's ecosystems services and natural capital," *Nature*, Vol. 387, May 15, 1997. This study provides an indication of the costs of ecosystem damage from pollution and habitat destruction.

[2] For a detailed exposition on the relationship between virgin and recycled material prices see "A Tale of Two Realities," *The Monthly UnEconomist*, Vol. 1, No. 1, July 1999, and, Morris, Jeffrey, "There must be 50 ways to pick a number," *Resource Recycling*, May 1998, Vol. XVII, No. 5, pp. 23-29.

[3] Caused, for example, by creation of permanent international cartels in oil, chemicals, wood pulps, and metal ores, with structures and rules that don't allow any producers to opt out of the cartel; worldwide internalization of all environmental costs of virgin materials extraction and processing; and/or an end worldwide to subsidization of virgin materials extraction and processing.

[4] These results are based on statistical analyses reported in the previous two issues of *The Monthly UnEconomist*. These analyses of household garbage, recycling, and yard debris collection quantities take into account differences in household income, yard size, garbage fee levels, and other important characteristics of waste collection programs.