

## **GreenStep Cities Best Practice # 22** **- final draft for comments through May 2010 –**

❖ **Solid Waste:** Increase waste reduction, reuse and recycling.

**Optional** for all cities

**Category:** Environmental Management

### **Summary**

The dominant model for our society's use of materials is a linear "take, make, waste" one made possible by a half-century of plentiful, inexpensive energy. A more energy- and resource-efficient model with lower greenhouse gas emissions seeks first to prevent the generation of waste and then moves to a cyclical, biological approach whereby product and waste reuse and recycling is maximized and disposal is minimized. In this emerging model, products and wastes are designed to be reused, and either composted or recycled.

### **Best Practice Actions**

- Category A cities must complete at least one Action if they choose to implement this best practice.
  - Category B cities must complete at least one of Actions (1) through (4), and at least one of Actions (5) through (9) if they choose to implement this best practice.
  - Category C cities must complete at least Action (1) or (2) and at least one of Actions (5) through (9) if they choose to implement this best practice.
- (1) Adopt percentage reduction goals for waste and toxicity generated from city operations (including schools, libraries, parks, municipal health care facilities). Accomplish reduction goals in at least three of the following areas:
    - a. Overall waste generation
    - b. Paper use and junk mail
    - c. Pesticide/herbicide use
    - d. Water use/waste water generation
  - (2) Adopt and meet aggressive goals for the overall percentage diversion of currently disposed waste from city operations into recycling and organics collection.
  - (3) Document signing of at least one resource management contract with a waste hauler for one or more of:
    - a. City government operations.
    - b. Schools, libraries, parks, or municipal health care facilities.
    - c. A commercial or industrial business.
  - (4) Publicize, promote and use the varied businesses collecting and marketing used and repaired consumer goods in the city/county.
  - (5) Arrange for a residential or business/institutional organics collection/management program (food-to-people, food-to-animals, composting, anaerobic digestion, and backyard composting).
  - (6) Organize residential solid waste collection by private and/or public operations to accomplish multiple benefits.
  - (7) For cities that provide direct or contract waste collection services, offer volume-based pricing on residential garbage and/or feebates on recycling so that the price differences are large enough to increase recycling/composting but not illegal dumping.
  - (8) Adopt a construction and demolition ordinance for projects over a specified size that mandates levels of recycling and reuse for materials and soil/land-clearing debris and is tied to demolition permits.

See the related *Environmental Purchasing* best practice.

**GreenStep Advisor**

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## Implementation Resources

(tied to the relevant Action by number)

- (1) and (2) MN Pollution Control Agency waste assistance: <http://www.pca.state.mn.us/waste/index.html>
- (1) and (2) Minnesota Waste Wise assistance (a program of the Minnesota Chamber of Commerce): <http://www.mnwastewise.org/>
- (3) Resource management contract language: <http://www.pca.state.mn.us/oea/p2/rmprograms.cfm>
- (4) See, for example, Hennepin County's *Choose to Reuse* directory: <http://www16.co.hennepin.mn.us/ceweb/Search.do>
- (5) Organics collection and composting resources: <http://www.pca.state.mn.us/waste/compost.html>
- (6) Organized collection has been shown to deliver cost savings to residents in monthly fees, to decrease truck emissions and daily truck traffic, and to decrease costs to residents on special assessments for road repair (which can be several thousand dollars per household). See *Analysis of Waste Collection Service Arrangements* (MPCA: 2009): <http://www.pca.state.mn.us/oea/lc/collectionservice.cfm>
- (7) The price differential would change by a minimum of 80% when a garbage container doubles in size or when collection frequency doubles. Aim for a 50% recycling rate and 10% composting rate by 2012.
- (7) Unit-based pricing for trash ordinances, in the more broadly applicable *Zero Waste Ordinance Resource Guide* (Minneapolis-based Eureka Recycling: 2008): <http://www.eurekarecycling.org/pdfs/ZWOrdsIndex.pdf>
- (8) For example, language governing commercial projects over 25,000 sq. ft. and industrial projects over 100,000 sq. ft.
- (8) *Best Management Practices for the Off-Site Reuse of Excess Fill from Development Sites* (MPCA: 2010): [http://assets.mnbrownfields.org/FillReuseBMPs\\_Jan2010MPCA.pdf](http://assets.mnbrownfields.org/FillReuseBMPs_Jan2010MPCA.pdf)

## Benefits

- Front-end waste management methods, which include waste reduction, recycling and composting, were ranked third in potential for reduction of greenhouse gases out of 31 recommendations that were quantified by the Minnesota Climate Change Advisory Group: <http://mnclimatechange.us>
- Composting of organics avoids the state tax and county fee on garbage, incurs a smaller tipping fee, and prevents anaerobic digestion of organics from producing the potent greenhouse gas methane from slowly escaping landfills.
- EPA's Waste Reduction Model (WARM) allows tracking and reporting of GHG emission reductions from several different waste management practices: [http://www.epa.gov/climatechange/wycd/waste/calculators/Warm\\_home.html](http://www.epa.gov/climatechange/wycd/waste/calculators/Warm_home.html)
- In 2006, data (see [http://www.nextstep.state.mn.us/res\\_detail.cfm?id=627](http://www.nextstep.state.mn.us/res_detail.cfm?id=627)) show that citizens and businesses in Minnesota:
  - Recycled over 2.5 million tons.
  - Saved enough energy to power 410,574 homes.
  - Prevented 6.4 million tons of CO<sub>2</sub> equivalents, equal to removing 1.3 million cars from the road.
  - Allowed manufacturers to avoid \$539 million in energy purchases.

- *Recycling, Composting and Greenhouse Gas Reductions in Minnesota* (Eureka Recycling, 2009): [http://www.eurekarecycling.org/pdfs/Composting\\_Recycling\\_GreenhouseGases.pdf](http://www.eurekarecycling.org/pdfs/Composting_Recycling_GreenhouseGases.pdf)
- *Stop Trashing the Climate* (Minneapolis-based Institute for Local Self-Reliance: 2008): <http://www.stoptrashingthecclimate.org>
- *Opportunities to Reduce Greenhouse Gas Emissions through Materials and Land Management Practices* (U.S. EPA: 2009) at [http://www.epa.gov/oswer/docs/ghg\\_land\\_and\\_materials\\_management.pdf](http://www.epa.gov/oswer/docs/ghg_land_and_materials_management.pdf) reveals that 37 percent of United States total greenhouse gas emissions result from the provision and use of goods produced within the U.S. “Goods” includes all consumer products and packaging, including building components and passenger vehicles. “Provision and use” includes all activities from resource extraction, manufacturing, and transport to use and disposal. A supplemental white paper, released by the Product Policy Institute and written by the lead technical author of the EPA report, concludes that when emissions of products made abroad and consumed here are included, and exports are subtracted, products and packaging account for 44 percent of total U.S. greenhouse gas emissions.

### **Connection to State Policy**

- State laws govern many aspects of solid waste disposal and vest responsibility at various governmental levels, especially at the county level. Public entities are required by statute to use the waste management hierarchy (reduce waste first, then attempt to reuse, then recycle, and finally dispose of any remaining materials) and to recycle at least three materials. As with all GreenStep best practices, the action options in this best practice build on those seen implemented in Minnesota cities and go beyond state requirements.
- The Minnesota Climate Change Advisory Group (<http://www.mnclimatechange.us>) goals for waste reduction statewide are 50% recycling and 10% composting by 2012, and 60% recycling and 15% composting by 2025.

[www.MnGreenSteps.org](http://www.MnGreenSteps.org)