



## MINNESOTA TAKES THE LONG VIEW OF ITS SOLID WASTE SYSTEM

BY KRISTINA WILE AND PAUL A. SMITH

In January 2000, Minnesota's Office of Environmental Assistance (MN OEA) began to investigate creative solutions to the state's growing problems with solid waste disposal. Among other challenges, Minnesota was generating more solid waste than before without opening new landfills; recycling rates had plateaued; increasing amounts of waste were going out of state instead of to waste processing facilities; and several waste processing plants were increasingly reliant on county fees and tax revenues to fund their operations. A state agency known for its innovative problem-solving practices, MN OEA published a forward-thinking solid waste policy report recommending that the state eliminate the disposal of unprocessed solid waste by 2008 and calling for a systemic analysis of the current system in order to address these growing concerns.

The reactions to the report by solid waste industry constituents varied widely. This mixed response convinced MN OEA leaders that, in order to decide how to move ahead, they needed to conduct a participative forum. They felt that systems thinking and related organizational learning practices could help a group of representatives from different sectors identify leverage points for change and address the social and dynamic complexity inherent in such an intricate system.

That spring, MN OEA gathered 27 participants, representing citizens, businesses, government, recycling centers, and solid waste processing industries statewide, to think together about Minnesota's solid waste system. A Blue Ribbon Panel of legislators, industry officials, and community representatives would then recommend legislation

based on this group's suggestions. Participants were asked to be leaders and experimenters, to look beyond their familiar areas of expertise in order to understand the whole system, to adopt a view with a longer time horizon than their organization generally used, and perhaps to reach conclusions that would not necessarily be in their organizations' best short-term interests.

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### A Historic Opportunity

Systems thinking tools can provide a vital and sorely missed perspective on the complex matters with which our legislators grapple. Although there have been many systemic analyses of public sector issues, the challenge is to discover innovative methods for encouraging public policy-making institutions to accept and implement the conclusions that arise from these analyses. At least initially, there may have to be trade-offs between being *right* from a systemic perspective and being *effective* from a political standpoint.

MN OEA employed a highly participative process to help the working group come to adopt as their own the findings of the solid waste policy report. The facilitators and MN OEA did not direct the participants' work; they simply brought together a capable group of people and provided them with tools for dealing with the complexity of the issues they were asked to address. This "hands-off"

approach, new for public-policy discussions, was a critical factor in the project's success.

MN OEA also carefully selected participants, identifying the various sectors for representation and soliciting nominations for people "in the trenches" who really understand their industries. The agency excluded registered lobbyists to try to minimize the political element in the process. Final participants were chosen through a voting procedure, based on their potential to see beyond themselves, their knowledge, and their work ethic.

### The Participative Process in Action

The process began with an introduction to systems thinking and organizational learning (see "Tools for Change" on p. 8). The facilitator also told participants how different this work would be from their previous experiences, defined the notion of respect, and made explicit expectations about respectful behaviors.

In the nine days the group met, participants engaged in the following activities:

- They used the hexagon technique (see "From Ideas to Variables" by David Kreutzer, *THE SYSTEMS THINKER* V8N9, November 1997) to identify issues and concerns regarding the solid waste disposal system. Writing their observations on sticky notes and posting them at the front of the room allowed participants to be fully present, incorporate emotional responses as relevant data, separate issues from the individuals who articulated them, and create a complete picture of the system.
- The participants then identified variables and learned the language of

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causal loops. They worked in small teams to explore the issues represented on the hexagons, using systems archetypes, free-form causal looping, and stock and flow diagrams.

- They began and finished each day with a dialogue-style check-in/check-out (see “Check-in, Check-out: A Tool for ‘Real’ Conversations” by Fred Kofman, *THE SYSTEMS THINKER* V5N4, May 1994). Through this process, each participant could voice his or her state of mind, thoughts, and concerns. Sometimes supportive, sometime divisive, check-ins/check-outs and shared luncheons were critical to building trust.
- The participants synthesized the smaller causal loop diagrams into one large causal map, making the relationships across the entire solid waste system visible at a high level.
- They developed options and strategies for moving forward. The group tested these strategies using causal loops and stocks and flows by identifying and considering the unintended side effects of proposed actions.
- Lastly, the group developed recommendations for the Blue Ribbon Panel. As they did so, they identified

guiding principles for themselves as well as for the state, such as “We must protect the environment and public health,” “We must reduce waste generation,” and “We must collect better data over time.” They also employed a six-level agreement model to discern how much support each recommendation received from members.

In previous participative processes, this was the point where some participants sat back and waited to see what would happen; others, who disagreed with the majority, worked to undermine the final results; and still others voiced their distrust of the political system to carry out the suggestions. This time, all concerns were considered openly. Most participants came to realize that if they didn’t give the process their best effort, they would be contributing to the self-fulfilling prophecy that real change cannot be created within the political system.

### Outcomes

In the end, the group made 10 recommendations to the Blue Ribbon Panel, with some suggestions about funding sources. The final report included several causal loop diagrams for explanatory purposes. The group

elected representatives to provide context for the report during the presentation to the panel.

The panel unanimously accepted most of the recommendations—a remarkable achievement. A major reason for this consensus was that the recommendations were intentionally worded at a fairly high level, with little specificity. Nonetheless, the groundwork for this level of agreement was laid during the time the working group had spent together, talking about their assumptions and concerns, from their vantage points within the system.

Interestingly, one of the group’s recommendations was that they continue to meet periodically to assess how the system has changed and whether the actions taken on the recommendations worked the way they had anticipated, and to tackle some of the more difficult issues. Participants felt it was important to build on the foundation they had created, both from the content of their work and the relationships they had established.

They also expressed cautious optimism about the ability of the political system to act on these recommendations while preserving their original intent. As the participants move forward, their exposure to and growing understanding of systemic processes and group learning tools should contribute to improving the political process.

Governmental bodies like MN OEA play a vital role in protecting vulnerable resources, and yet they face staggering levels of complexity. Ultimately, we hope to see an increasing use of these tools in the areas where they have the most value—in the stewardship of our societal systems. ■

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## TOOLS FOR CHANGE

### Systems Thinking

Looking at the underlying structures of the solid waste system—and how they connect with each other—was vital for participants to grasp the system’s changing and complex nature. Drawing causal loop and stock and flow diagrams let the group make *implicit* cause and effect knowledge *explicit* and helped participants identify the dominant and latent *feedback forces* that drive the behaviors in question. For example, the group found that a natural tension exists between the existing solid waste industry and cutting-edge best practices; that the business community not only responds to consumer demand, but also creates it; and that the supply of recycled material must be stabilized before demand for these materials can be spurred.

### Learning

Central to the group’s success was the participants’ ability to understand they weren’t going to “solve” the problem once and for all. They also accepted that, because mental models are incomplete and imperfect, they will periodically need to assess progress and make adjustments as they implement recommendations.

### Relationship-Building

The group spent nine days developing shared understanding. This difficult work fostered commitment—to each other and to building on this foundation. These deeper relationships are a valuable byproduct of the process.

### Courage

The participants needed courage—to face their larger organizations with outcomes that didn’t necessarily support their goals, to say things that made others uncomfortable, and to seek to improve the political process.